

The 23rd Annual
Symposium
**of Undergraduate Research &
Creative Scholarship**

In-Person Presentations

Pierson Auditorium

Thursday, April 20, 12:00-6:00 p.m.

Online Presentations

Open for Discussion in Canvas

Thursday & Friday, April 20 & 21





Office of Undergraduate Research and Creative Scholarship

www.umkc.edu/undergraduate-research/

The Office of Undergraduate Research and Creative Scholarship supports high-impact learning opportunities by funding the work of undergraduate researchers, scholars, and artists; linking students with research opportunities; providing opportunities for students to enhance intellectual and career-building skills; and supporting faculty mentorship.

Staff

Jane Greer, PhD, Director

Audrey Lester, Assistant Director

Faculty Advisory Board

Majid Bani-Yaghoub, Mathematics

Travis Fields, Mechanical Engineering

Amanda Graettinger, Earth & Environmental Sciences

Jane Greer, English

Amanda Grimes, Health Sciences

R. Scott Hawley, Stowers Institute

Saul Honigberg, Biological Sciences

Kimberly Johnson, Multicultural Student Affairs

School of Education, Social Work, & Psychological Sciences

Seung Lark Lim, Psychology

Debra Leiter, Political Science

Ryan Mohan, Biological Sciences

Paul Rulis, Physics

Jeff Rydberg-Cox, Classical Studies

Student Ambassadors

Asayiel Alhajeri, Biology

Zalyia Carr, Psychology

SPRING 2023
23RD ANNUAL SYMPOSIUM OF UNDERGRADUATE RESEARCH
& CREATIVE SCHOLARSHIP

IN-PERSON

Thursday, April 20, 2023

Atterbury Student Success Center, Pierson Auditorium

12:00-4:00 p.m. Poster Session

- Judging Odd Numbers: 12:30-2:00 p.m.
- Judging Even Numbers: 2:00-3:30 p.m.

1:30-2:30 p.m. Oral Presentations

4:00-5:00 p.m. Reception

5:00-6:00 p.m. Awards Ceremony

- Welcome
- Keynote Speaker
- Recognition of
 - EUREKA Students & Faculty
 - UR Associates & Mentors
 - Emerging Research Scholars
 - UR Fellows
- Awards for Presentations of Distinction
- Awards for Excellence in Mentoring

ONLINE

Thursday & Friday, April 20 & 21, 2023

Online Presentations Open for Discussion in Canvas:



RECOGNIZING UNDERGRADUATE RESEARCH FELLOWS

Students who have been deeply involved in the process of research, scholarship, and artistic production from the point of inquiry to the point of presentation, publication, or performance can be recognized with the transcript designation of Undergraduate Research Fellow. The following students were awarded the Undergraduate Research Fellow transcript designation in Fall 2022.

Hannah Briggs

Chemistry, Class of 2023

Adriana Feener

Physics with an Emphasis in Astronomy, Class of 2023

Nicholas Frede

Biology, Class of 2023

MaAh Kyi

History and English, Class of 2023

Hannah Leyva

Sociology and Spanish, Class of 2024

Britton Needham

Biology and Chemistry, Class of 2023

Truong (Tommy) Nguyen

Biology, Class of 2023

Lauren Textor

English, Class of 2023

AWARDS CEREMONY KEYNOTE SPEAKER

Chris Harris

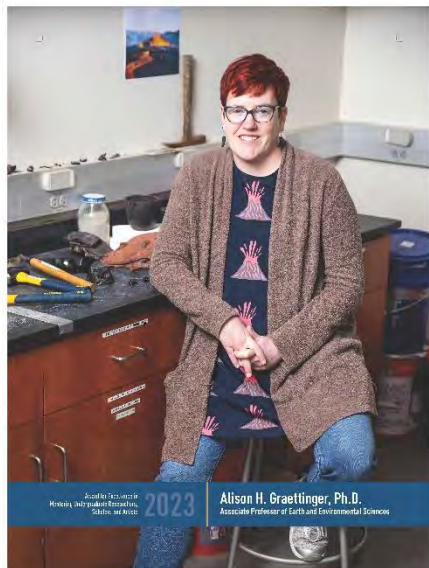
Founder, Harris Park Midtown Sports & Activity Center
BLA, 2014

For more than 20 years, Chris Harris has devoted his time to transforming urban land into green spaces and recreation areas. He developed the Harris Park Midtown Sports and Activity Center in the late 1990s, which turned a vacant lot in urban Kansas City, Missouri, into a beautiful park with a golf course, basketball courts, volleyball courts, horseshoe pitches, and a children's playground. Harris has built the park into not only a recreational facility, but also an educational environment that helps youth and adults cultivate basic life skills, self-esteem, and respect for others and property. As a student at UMKC, he was awarded the Bernard Osher Reentry Scholarship, which gave him the opportunity to advance his philanthropic initiatives and his career. His achievements led him to be named the 2018 Alumni Achievement Award winner for the College of Arts and Sciences at the University of Missouri-Kansas City.

AWARDS FOR EXCELLENCE IN MENTORING UNDERGRADUATE RESEARCHERS, SCHOLARS, & ARTISTS

Alison Graettinger

Associate Professor of Earth & Environmental Sciences

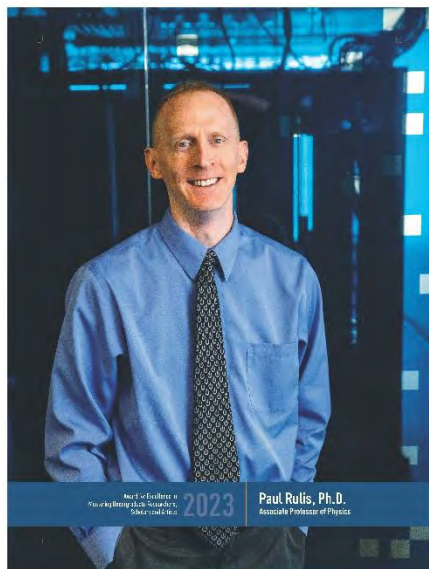


Dr. Alison Graettinger, Associate Professor of Earth & Environmental Sciences, is a volcanologist whose research focuses on maar craters and eruptions involving water and ice. Since she arrived at UMKC in 2016, she has been conducting her research not only through field work, but also through remote sensing and experiments. Dr. Graettinger's enthusiasm for her work has inspired students near and far to pursue this area of research. Through her teaching of course-based experiences in undergraduate research, Dr. Graettinger has helped students understand how the research process can be used to answer questions about their world. Through her mentoring of more than 30 undergraduate student research projects, she has helped students explore their curiosity, to expand their skillsets, and engage with a larger community of researchers. As a mentor, Dr. Graettinger has not only

contributed to these students' academic and professional success, but she is helping to shape the next generation of researchers in earth and environmental science.

Paul Rulis

Associate Professor of Physics



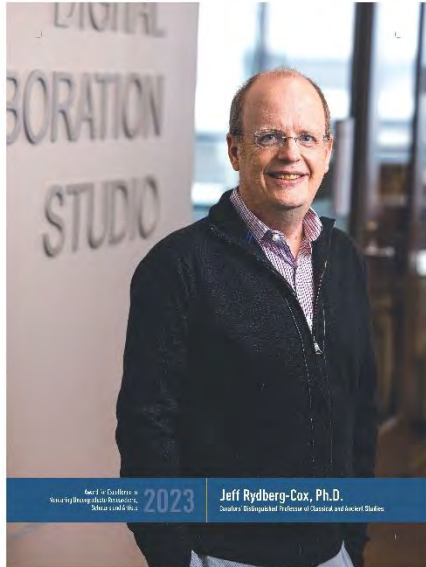
Dr. Paul Rulis, Associate Professor of Physics, devotes his research to the development of computational methods to address problems in materials science. Since he joined UMKC's faculty in 2011, he has played an instrumental role in engaging undergraduate students in physics research. With generosity and patience, he helps students make adjustments to their approaches and methodologies so that they can resolve problems and make progress in their research. Through individual coaching and group collaboration, students acquire technical skills, develop communication skills, and gain confidence. He sets high expectations, but partners with students to make even the most ambitious goals attainable. His students have been successful not only in being awarded UMKC's SEARCH and SUROP grants, but also in being selected for competitive internships and research experiences

funded by the National Science Foundation. As students work toward the next steps in their careers, they draw on the skills they've gained from Dr. Rulis.

AWARDS FOR EXCELLENCE IN MENTORING UNDERGRADUATE RESEARCHERS, SCHOLARS, & ARTISTS

Jeff Rydberg-Cox

Curators' Distinguished Professor of Classical & Ancient Studies



Dr. Jeffrey Rydberg-Cox, Curators' Distinguished Professor of Classical & Ancient Studies, researches methodologies for digitizing and analyzing ancient Greek texts, literary texts, manuscripts, and other materials in the humanities. Whether students are enrolled in a course-based experience in undergraduate research with Dr. Rydberg-Cox, or working on one of his interdisciplinary project teams, they learn to use emergent technologies to develop new strategies to analyze texts, manuscripts, and other materials in the humanities. Dr. Rydberg-Cox acts as a project manager, building rapport with the team and welcoming ideas from all of its members. Undergraduate students learn to understand the end-to-end research process and how their work contributes to the projects' goals, and they learn to articulate the value of their work to other scholars and professionals. Just as students have

made significant contributions to the development of deliverables for Dr. Rydberg-Cox's National Endowment for the Humanities-funded projects, Dr. Rydberg-Cox has helped students develop into well-rounded researchers who are prepared to work in a wide variety of settings.

RECOGNIZING UNDERGRADUATE RESEARCH FELLOWS

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Truong (Tommy) Nguyen

Biology, Class of 2023

Lauren Textor

English, Class of 2023

CELEBRATING EUREKA COURSES

Experiences in Undergraduate Research are available to students early in their academic careers through EUREKA! Courses. In these courses, students build a relationship with a faculty mentor, learn and practice research skills and scholarly methods, complete a research project, and present their work at a campus-wide symposium.

In Fall 2022, students enrolled in in-person EUREKA! Courses are presenting their projects in-person in Pierson Auditorium, and students enrolled in online asynchronous EUREKA! Courses are presenting their work online in Canvas: <https://umssystem.instructure.com/enroll/K4PAKK>.

BIOLOGY H206 Genetics

Instructors: Dr. Saul Honigberg & Dr. Scott Hawley, Biology

ENGLISH 309WI Rhetorics of Public Memory

Instructor: Dr. Jane Greer, English

GECRT-SS 111 Health Issues in Aging

Instructors: Dr. Kelsey Gardiner & Dr. Jamie Hunt, Health Studies
Students in this section are presenting online.

PBHL 496 Evidence-Based Public Health Capstone & Seminar

Instructor: Dr. Joseph Lightner, Public Health
Students in this section are presenting online.

POLI-SCI 221 Introduction to Comparative Politics Research

Instructor: Dr. Debra Leiter, Political Science

23RD ANNUAL SYMPOSIUM OF UNDERGRADUATE RESEARCH & CREATIVE SCHOLARSHIP

IN-PERSON POSTER PRESENTATIONS

- | | | |
|-------------------|--|---|
| Poster #1 | Kylie Cushing, Logan Baerman
<i>Examining regulation of the SAGA-DUBm complex during sleep deprivation in Drosophila melanogaster</i> | Molecular Biology |
| Poster #2 | Luke Romang
<i>Depositional Setting, Provenance, and Tectonic Implications of the Carmen Formation on San Marcos Island, Baja California Sur, Mexico</i> | Division of Natural & Built Environment |
| Poster #3 | Maha Mateen
<i>Regulation in Cryptocurrency</i> | Bloch School |
| Poster #4 | Trevor Bell
<i>Interactions Between 16S rRNA Methylation at G527 and S12 Mutations Affecting Streptomycin Resistance, Growth, and Fidelity in E. coli</i> | Division of Biological & Biomedical Systems |
| Poster #6 | Cynthea Thompson
<i>Conducting walk audits with Girls on the Run to develop a youth-informed pedestrian map</i> | Health Sciences |
| Poster #7 | Sarah Battle, Daryian Berymon, Gloria Carson, Joslyn Ross
<i>Highlighting Marginalized Voices at the Donnelly Garment Company</i> | English |
| Poster #8 | Jessica Kim
<i>SAGA is a dynamic circadian complex involved in Spinocerebellar ataxia type 7</i> | Division of Biological & Biomedical Systems |
| Poster #9 | Benjamin Vandenburg, Michelle Tran
<i>The Effect of Environment on the Biological Response of Yeast</i> | Division of Biological & Biomedical Systems |
| Poster #10 | Grace Dang
<i>Reconfigurable Biomaterials Containing Magnetic Nanoparticles</i> | Division of Energy, Matter, & Systems |
| Poster #11 | Jay Vanderslice
<i>Creating Continuous Universal Paths and Variable Band Structures</i> | Physics & Astronomy |
| Poster #12 | Nipam Raval
<i>Inhibition of Interleukin-1 Receptor-Associated Kinase 1 (IRAK1) as Propitious Ovarian Cancer Therapy</i> | School of Medicine |
| Poster #13 | Yasmeen Hanon
<i>MENA and the Resource Curse: Establishing A Correlation Between Civil Conflict and Resource Wealth in the Middle East and North Africa.</i> | Political Science |

- Poster #14** **Tinh Nim, Chris Viermann** Division of Biological & Biomedical Systems
The Effects of Visual and Circadian Proteins on BDBT and of BDBT on Visual Proteins
- Poster #15** **Ethan Ryan, Mara Huck, Dorris Graves, Ellery Convery** English
"Can 1,300 employees be wrong?": The Donnelly Garment Company Letter Writers' Attitudes toward Unions
- Poster #16** **Lindsay Todd** Division of Biological & Biomedical Systems
A New Regulator of Ataxin-7 Cleavage in Spinocerebellar ataxia type 7
- Poster #5** **Park Zebley** Media, Art, & Design
Happy Milk: A Narrative Short Film & Creative Exploration
- Poster #18** **Victoria Cegielski** Vision Research Center
Changes in Protein Expression in Retinal Pigment Epithelia Under Conditions of Oxidative Stress
- Poster #19** **Gabriella Díaz Leguillú, Chris Viermann, London Witthar, Lily Stedman** Division of Biological & Biomedical Systems
Insulin-producing Cell Transplantation: A Promising Approach for Treating Diabetes
- Poster #20** **Hannah Edwards** Conservatory
Music Therapy as a Nonpharmacological Treatment for Post-Stroke Depression: A Scoping Review
- Poster #21** **Sarah Kirk, DeDe Davenport, Genevieve Ismert, Ashley Moreno, Darius Stewart** English
Passing Through the Eye of the Needle: Letters from the Donnelly Garment Company
- Poster #22** **Karr, Lauren** Political Science
Housing Humans
- Poster #23** **Evan Donnelly** Political Science
How do income levels and socioeconomic factors impact voter turnout?
- Poster #24** **Tahleel Althalathini** Chemistry
Resistance Training
- Poster #25** **Danielle Beaubien** Sociology
The price of discipline
- Poster #26** **Meghan White, Tessa Eads, Jessica Kim** Division of Biological & Biomedical Systems
Using CRISPR/Cas9 to Inhibit Mosquito-Borne Pathogens: Targeting the Salivary Gland Surface Protein 1 (SGS1)
- Poster #27** **Julius Odugwe, Jr.** Political Science
Does the Level of Education Affect Income in Germany?

Poster #28	Liz Langford <i>Assessing the Johnson-Su Composting Bioreactor for Midwest Urban Soil Regeneration</i>	Earth & Environmental Sciences
Poster #29	Hannah Leyva <i>The Discursive Construction in the Platform Economy: The case of Uber</i>	Economics
Poster #30	Adam Pribyl <i>Winging It: The Ultimate Showdown Between Three Cutting-Edge Prototyping Techniques</i>	School of Science & Engineering
Poster #31	Joseph Weimer <i>The influence of Irish geo-political policies on British trade.</i>	Political Science
Poster #33	Lakshmi Kasi <i>Case Report: Somatic-Type Delusional Disorder</i>	School of Medicine
Poster #34	Lakshmi Kasi <i>Illness Anxiety Disorder Post COVID-19</i>	Biological & Health Sciences
Poster #35	Vari Patel <i>The effect of urban density on support of democracy</i>	Political Science
Poster #36	Jhalisa Robinson <i>Interconnections of Taste, Smell, and Human Empathy</i>	Psychology
Poster #37	Sarah Herndon <i>The Clio: Your Guide to the History and Culture Around You</i>	History
Poster #39	Cooper Buzbee <i>Liquid-in-Liquid 3D Printing of Responsive Soft Materials</i>	Division of Energy, Matter, & Systems
Poster #40	Lakshmi Kasi, Neehar Shah <i>Altered Mental Status with Manganese Deposition in the Brain</i>	School of Medicine
Poster #41	Gabrielle Pycior <i>Molecular Basis of CNTN-CNTNAP Binding</i>	Molecular Biology & Biochemistry
Poster #42	Kayla Nguyen <i>Early Life Adversity Impacts Craniofacial Morphogenesis near Tooth-Borne Regions in Mice</i>	Oral & Craniofacial Sciences
Poster #43	Angel Williams <i>Corruption in Politics: State and Local Levels</i>	Political Science
Poster #44	Angel Williams <i>What is the Association Between AA Spirituality/Religious Behaviors and Fruit/Vegetable Consumption?</i>	Psychology

- Poster #45** **Michelle Perez** Political Science
The Consequences of the Media: the Effect News Sources Have on the People's Fear
- Poster #46** **Bethany Ankrom** Health Sciences
Evaluating an Adaptive Adolescent Afterschool Intervention Based on Participant Feedback to Increase Adolescent Physical Activity
- Poster #47** **Maqdas Bhatti, Abigail Doty** Division of Biological & Biomedical Systems
Potential Therapeutic Method for Cystic Fibrosis
- Poster #48** **Payton Phipps** Civil Engineering
Degradation of PVC under UV Light and Fertilizers for use in Urban Agriculture
- Poster #49** **Karen Hughes, Reagan Johnston, Ella Whitfield, Emma Sauer** English
All in a Day's Work: The Letter Writers of the Donnelly Garment Company
- Poster #50** **Sadie Giles** Political Science
Impact of President Abdel Fattah al-Sisi on the Egyptian Human Rights Crisis
- Poster #51** **Christopher Brown** School of Science & Engineering
Cryptic COP1 interactions can be detected in some developmental contexts in Drosophila
- Poster #52** **Saja Daifallah** Political Science
Employment: Can the Educated be Vulnerable to Unemployment?
- Poster #53** **Zalyia Carr** Psychology
Diagnosis Differences in Childhood Mental Disorders
- Poster #54** **Anh Doan** Mechanical Engineering
Gel Nanostructures via Lipid Self-Organization
- Poster #55** **Zaibunnisa Malik** Oral & Craniofacial Sciences
Maternal dietary vitamin A levels as a determinant of penetrance and severity of cleft lip/palate in a Wnt9b model.
- Poster #56** **Adriana Feener** Physics
Core Level Spectroscopy Calculations of Shallow Core Orbitals in High Z Elements.
- Poster #57** **Noah Sims** Psychology
The Impact of Personality on Criminal Behavior
- Poster #58** **Brooke Higgins, Judah Jerls, Grace Dang** Division of Biological & Biomedical Systems
Creating a Bivalent Protein-based Vaccine Against Influenza and SARS-CoV-2 Using Synthetic Hybrid Proteins and PCR

- Poster #59** **Toan Vo** School of Science & Engineering
Mapping the underlying process–structure–property relations of amorphous hydrogenated silicon carbide (α -SiC:H) fabricated from plasma-enhanced chemical vapor deposition
- Poster #60** **Gabrielle Wussow** Political Science
Human Rights Violations in Serbia Affect Serbian Citizens' Legitimacy of Their Government
- Poster #61** **Gavin Hysten, Liz Langford** Earth & Environmental Sciences
A Comparison of Agricultural and Urban Soils Using a Whole Ecosystem Approach
- Poster #62** **Makaylee Morelli** Political Science
How does personal experience with crime and the frequency and mode of media affect interest in politics?
- Poster #63** **Jocelyn Vang** Oral and Craniofacial Sciences
The Role of Estrogen on Bone and Muscle Cross Talk
- Poster #64** **Annika Tsay** Chemistry
Healthy Shake or Toxic Tonic: An Examination of Iron and Copper Levels in Plant-based Protein Powders
- Poster #65** **Mya Thomas** Earth & Environment Sciences
Constructing and testing a technology to remotely deploy scale objects for cave exploration and digital modeling
- Poster #66** **Eun Lee** Biology
Genome-wide DNA Methylation in Granulosa Cells is Crucial for Gonadotropin-Induced Ovarian Follicle Maturation
- Poster #67** **Anthony DeWald** Biological Sciences
Development of Tools to Study the Effects of Drosophila Slbo Containing Tribbles Degron Mutation
- Poster #67** **Radnyee Kandlur** Division of Biological & Biomedical Systems
Investigation of the Molecular Interface between Trbl and Slbo
- Poster #68** **Rayna Rucker, Amanda Clay** Teacher Education & Curriculum Studies
Affordances of Play Provocations in an Early Childhood Classroom: Action Research Project
- Poster #69** **Brandon Camacho** Race, Ethnic, & Gender Studies; Communication Studies
Mexican American Photojournalist Bruno Torres

- Poster #70** **Sara Lott** Political Science
Regimes and Trust
- Poster #71** **Adam Waldren, Nicholas Gaitan** Division of Biological & Biomedical Systems
Analysis of Circadian Protein Function in the Sleep Homeostasis Response of Fruit Flies
- Poster #72** **Diana Perez** Political Science
The Relationship Between Confidence in Government and Income Levels in Mexico
- Poster #73** **Evan Hayakawa** Political Science
Citizen Confidence in Civil Services and the Government Before and After Hosting the Olympics
- Poster #74** **Alyssa Squires, Zack Smith** Psychology
Mental Health Among the Religious and the "Nones": Examining Attitudes Toward Conventional and Alternative Approaches to Mental Health Care
- Poster #75** **Amelia Beharry, Sheyda Dehghani, Ellen Beshuk** Division of Biological & Biomedical Systems
Reprogramming T-cells Through DNA Origami to Treat Leukemia
- Poster #76** **Claudia Perez** Division of Biological & Biomedical Systems
The Future of Urbanized Farming: The Relationship Between Farming Systems and Marketability of The Product
- Poster #77** **Lauren Leetch, Charlie Scheckells, Kate Holt, Halle Hartman** English
The Workers' Will: An analysis of the rhetorical strategies used by Donnelly Garment Company employees in anti-union letters
- Poster #78** **Adeesha Naveed** Civil Engineering
Digital Technologies for Engineering Inspection Automation
- Poster #79** **Zackary Zeller** Political Science
Education Accessibility: How Ethnicity and Income Level affect Education Extensiveness
- Poster #80** **Jodie Schmitt** Division of Biological & Biomedical Systems
Investigating the Role of EpCAM in the Development and Regeneration of Mechanosensory Hair Cells
- Poster #81** **Wuraola Awopetu** School of Nursing & Health Studies
System Change Habit Strength Medication Adherence
- Poster #82** **Hannah Caviness** Psychology
Inclusivity in Action: Proposals for Shifting Views on Neurodiversities in Schools for Better Outcomes in Elementary Education and Beyond

- | | | |
|-------------------|--|--|
| Poster #84 | Clay Belz, Kaycee Factor,
Aminatu Idowu,
<i>Prevention of PrP^{Sc} Conversion</i> | Division of Biological &
Biomedical Systems |
| Poster #85 | Nusaybah Ibrahim, Laylah Liwaru

<i>Foxg1a regulates craniofacial development in the zebrafish</i> | Division of Biological &
Biomedical Systems |
| Poster #86 | Alejandro Hernandez
<i>Comparing the Impact of Civil War on Public Trust in Government: A Case Study of Ethiopia and Nigeria</i> | Political Science |

IN-PERSON ORAL PRESENTATIONS

- | | | |
|------------------|---|------------|
| 1:30 p.m. | Jonah Petitjean
<i>The Attention Economy and Temporal Expropriation: Alienation and Technological Enclosure</i> | Economics |
| 2:00 p.m. | Sophia Chabot
<i>Development of a Short Form of the Social Issues Advocacy Scale-2</i> | Psychology |

ONLINE PRESENTATIONS: PBHL 496 Public Health Capstone & Seminar

- Raneem Akkila**
Assessing Social Determinants and Leading Causes of Death in Jackson County

ONLINE PRESENTATIONS: GECRT-SS 111 Health Issues in Aging

Lojain Abunasser

Mental changes through the decades

Sarah Agorua

Final Abstract Decades Interview

Yaretzy Aguirre

Mental Health in the Aging Population

Sammy Alabed

Perception of Mental Health

Hiba Alterjalli

Steps in the Right Direction for Mental Health

Rocio Alvarado

Views on Mental Health Throughout the Decades

Darlene Alvarez

Mental Health in The Aging Population

Halena Aquino-Dunkin

The Impact of Exercise and Socializing on the Mental Health of the Older Population

Ibrahim Assaf

Causes and Remedies of Mental Illness in the Elderly Population

Metadel Assefa

How the aging population takes care of their mental health.

Taylor Bailey

The Effects of Mental Health on the Aging Population

Daylan Becker

Aging and the Effects on Mental Health

Christine Bermejo

Mental Health in the Aging Population

Olivia Beshears

Birth control knowledge and experience affecting perception and use

Jhansi Birru

Exploring the Influence of Adolescent Experience and Knowledge on Birth Control Access and Perception Throughout the Lifespan.

Emma Bjornstad

Does experience and knowledge in adolescents impact use and perception of birth control access through the lifespan?

ONLINE PRESENTATIONS: GECRT-SS 111 Health Issues in Aging

Mattea Brooks

Final Abstract

Nicole Bruewer

Birth Control among Young Adults

Donald Bunch

Does experience and knowledge in adolescents impact use and perception of birth control access through the lifespan?

Delaney Bushman

Mental Health in the Aging Population

Gavin Catching

Mental health in the aging population

Braylee Childers

Mental Health vs. Health Issues in Aging

Alexis Corsello

Advancing Mental Health Services in the Aging Population

Claire Covert

Mental Health in the Aging Population

Alexis Cox

Effects of Mental Health on the Aging Population

Brenna Cronin

Mental Health in the Aging Population

Johana Cruz-Mera

50+ Year Old Population's Views and Recommendations on Mental Health and Treatment

Melissa Cuevas

Stigma Around Mental Health and Interventions

Malath Daffaallah

Physical Activity Throughout the Decades

Espy Daniels

Physical Activity and Aging

Madison Davis

Impact of Physical Activity with Aging

Breana Davis

How does physical activity change throughout the decades

ONLINE PRESENTATIONS: GECRT-SS 111 Health Issues in Aging

Anne Ebberwein

Change in Mental Health Views Through the Decades

Keatyn Eller

Changing Viewpoints on Mental Health Throughout the Decades

Tyler Ellington

Mental Health Views Through the Decades

Daniela Escamilla

The views on mental health during the years

Hanna Farahzad

Mental Health in Aging Community - Final Abstract

Mauricio Fernandez Leon

How Mental Health Looks Like in the Aging Community

Fatima Fierros

How Do Views on Mental Health Change Throughout the Aging Process?

Sulema Flores

Mental Health in the Aging Community

Logan Fortner

Disparities in Healthcare lead to Health Issues

Amelia Funston

The United States Healthcare System

Aisha Gaither

Impact of Cognitive Decline Among the Aging Population

Katelyn Gendron

Understanding Cognitive Decline and the Needs of Older Adults

Logan George

How Does Aging Correlate to Cognitive Decline

Mason Hawley

Wellness and Cognitive Decline: A New Outlook on Aging

Hanan Hayyeh

Cognitive decline and aging

Dominic Heater

Mental Health of Aging Adults

ONLINE PRESENTATIONS: GECRT-SS 111 Health Issues in Aging

Cecelia Hines

A Qualitative Look at Mental Health in Aging Adults

Glenne Hinkle

Aging and Mental Health in Adults Over the Age of 50

LaToya Hodge

How does mental health affects adults 65 & older in an urban setting?

Samm Hudgins

How Generational Differences Affect Perception Of Mental Health In Older Adults

Missy Huntebrinker

Sunscreen: The Aging Population

Hawa Ibrahim

The Reality of Sunscreen

Chinecherem Ihenacho

Why Sunscreen?

Zaran Jathaul

Use of Sunscreen in Adults 50 and Over

Lynette Jeem

Study of Health Behaviors in the Aging Population with Chronic Disease Risks

Sylvia Jeffress

Money and its Effects on Skin Cancer in the Aging Population

Kailey Jimenez

Studying Mental Health in Older Populations

Kiara Jimenez

How does mental health affect the aging population?

Jaeden Johnson

Prevention and Treatment with Mental Health in the aging population

Nadiah johnson

Mental Health Within The Elderly Population

Kate Jones

What Mental Health Looks Like in the Aging Population

Sai Kiran Kanduri

The Impact of Physical Activity on the Aging Process

ONLINE PRESENTATIONS: GECRT-SS 111 Health Issues in Aging

Jeshna Kaparathi

Physical Fitness and its Effect on the Aging Population

Kenzie Kennicutt

Physical Activity and its Effects on the Aging Population

Marshall Knisal

Physical Fitness in the Aging Population

Sean Lawrence

Exercise Perceptions and Barriers in Older Adults

Sandy Lee

Mental Health throughout Different Generations

Hannah Lind

Decades Interview Project

Natalia Lopez-Rodriguez

Overcoming the Stigma Among Generational Differences in the Perceptions of Mental Health

Kyle Lostroh

Decades Interview Project Spring 2023

Cade Martin

Cade Martin Final Abstract

Nyle Mathis

The Effect Aging has on the Mental and Physical Health of Adults

Charles McGraw

Exercise and its Effect on The Aging Population

Rafia Mehmood

What effect does physical exercise have on the mental and physical health of age groups 60 to 90?

Alondra Mejia

The Effects of Physical Activity on Older Adults: Research on Mental and Physical Health

McKenzie Moburg

Final Abstract

Logan Mukeba

Final Abstract

ONLINE PRESENTATIONS: GECRT-SS 111 Health Issues in Aging

Allen Mukeba-Kasanda

Final Abstract

Constantin Musteata

Exercise is key to a good mental Health

Mackenzie Nastav

Improving Mental Health in the Aging Population

Joy Nevarez

Mental Health Service Barriers for Senior Citizens

Justin Nguyen

Mental Health Perspectives in the Aging Population

Katie Noble

Final Abstract

Emma Odell

Perception Of Mental Health In Older Adults.

Diamond Ogunsiji

Chronic disease in aging population

Manavjit Parmar

Chronic disease

Kassandra Perez

How do chronic disease risk factors influence health behaviors of the aging population?

Angelica Ponce

Physical Exercise in Aging

Jada Quezada

The Mental Effects on Social Isolation

Yasmeen Qusay

Mental Health and the Aging Population

Vanessa Ramirez Corona

Mental Health in the Aging Community

Ayana Richard

Depression and Anxiety Final Abstract

Madelyn Riggs

Mental Health in the Aging Community

ONLINE PRESENTATIONS: GECRT-SS 111 Health Issues in Aging

Sam Robinson

Decades Interviews Project

Gray Robison

Nutrition's Effects on the Aging Population

Bryana Rodriguez

Mental and Physical Health Effects on Different Generations

Guadalupe Rodriguez-Gonzalez

Final Abstract

Mason Rogers

Nutritional Impact on Health and the Ageing Process

Alice Sabato

Diets changes and improvements

Emanuel Salgado

How does the aging population limit doctor visits?

Alia Schiefer

Aiding the Aging Population

Macyn Schwada

Disease Prevention in the Aging Population

Katelin Shellito

Nutrition within the Elderly

Jewel Slemmons

Nutrition and the Aging Population

Jocelyn Soto

Health Issues in the Aging Population with Proper Nutrition and Behaviors

Elijah Strout

Nutritional Health of Older Adults throughout their lives and how it affects their susceptibility to Mental Health Illnesses and Diseases

Drew Taylor

Does Nutrition Have an Impact On Mental Health

Liberty Tegethoff

How mental health affects the availability and applicability of nutritional strategies in the aging population

Leslie Tellez

Decades Interview

ONLINE PRESENTATIONS: GECRT-SS 111 Health Issues in Aging

Aida Tesfay

Does mental health affect the availability and applicability of nutritional strategies in the aging population?

Ruth Thao

Does Chronic Disease Relate to Health Behavior as we are Aging?

Monique Tolleston

Final Abstract

Jenny Tran

How Aging Impacts Health Behaviors Related to Chronic Diseases

Gabriela Urrea

Health Behaviors Influencing Chronic Diseases

Luckee Vean

Aging Population Health Behaviors and Chronic Disease

Jonin Villacampa

"Mental Health and Well-being Among Older Adults: Exploring Challenges and Opportunities"

Leslie Villasana

The Impact of mental health among the aging population

Ma’Kese Wesley

The Impact of Mental Health on Older Adults

Kennedi Williams

Aging - Why is physical activity important

Cheng Xuyuzhi

The relationship between technology and physical activity among the aging population, whether it has a positive or negative effect.

Naomi Young

The Relationship Between Exercise and Mental Health in the Elderly

Townsend Yu

Mental Wellness Based on Physical Health

Sophia Zahn

Final Abstract

ARTS & HUMANITIES

Sarah Herndon

Faculty Mentor: David Trowbridge

Academic Unit/Department: History

The Clio: Your Guide to the History and Culture Around You

Across Missouri, there are hundreds of museums, historic sites, and historical buildings. From small museums to large, sites of battle to sites of protest, or grand historic buildings to log cabins, Missouri is rich with a history that reflects the nation's growth during westward expansion, the Civil War, black American history, and more. In my research for The Clio, a free non-profit app bringing people closer to their local history, I have created and contributed to over 50 entries, a majority of which covers the Kansas City and St. Louis areas. My research has included the use of documents from the National Register of Historic Places and primary documents such as newspapers, birth certificates, death certificates, and military records. I have also conducted interviews with employees from different archives, museums, and historical societies in order to learn more about the history I'm covering and create audio files in which those close to the history can contribute their voice to the conversation. In working on this project, my research has included a vast array of different subjects regarding Missouri's history including, but not limited to, LGBT history, black history, the Civil War, and German immigrant history. I've even created entries highlighting notable Kansas Citians such as the Hall family. Through virtual tours and guides, The Clio makes all this history (and more) accessible to the public.

Park Zebley

Faculty Mentor: Caitlin Horsmon

Academic Unit/Department: Media, Art, & Design

Funding: SEARCH Grant and Indiegogo Campaign Supporters

Happy Milk: A Narrative Short Film & Creative Exploration

Funded in part by a SEARCH Grant, awarded by the University of Missouri-Kansas City School of Humanities & Social Sciences, and by the film's Indiegogo campaign supporters, listed below:

Kaya Beitz
Samuel Bricker
Jordan Cafer
Carolyn Cook
Bella Grace Cordero
Jörn Flath
Sophia Ho
Madelynn Hodes

Anthony Ladesich
Clay Loveless
Austin Mynatt
Tana M. Merrill
Autumn Pittman
Tony Reyes
Desi Thimesch
Carolyn Wilson

Forced to close the store alone one summer night, burnt out grocery store stocker Hollis encounters a strange and alluring customer. When this woman asks for a product called Creature Milk, Hollis must fulfill her request while dodging the bloodthirsty jaws of her alien children.

This seven minute comedy horror short film is an exploration of grocery stores & consumer culture, camp aesthetic, and queer representation. It is also an opportunity for me to explore my own creative risk taking and artistic growth with the most ambitious film I've attempted to date. Working with a diverse team of students and local industry professionals, the film was developed over a year and shot on location over four days. During the process of bringing the film from script to reality, I learned a lot about the challenges of making an independent, micro budget film, such as working with crew, finding my directing style, and selecting the right filming and artistic techniques needed to tell my story well. I hope to share those insights with the attendees of the research symposium through my presentation.

This presentation will include a summary of my creative process and findings throughout the film's production, a rough edit of a scene from the film (about 2 minutes), and props and costumes used in the film. I also hope to engage with attendees on what they gather from the clip included in my presentation and to answer any questions that they may have about the filming process.

BEHAVIORAL & SOCIAL SCIENCES

Bethany Ankrom

Faculty Mentor: Amanda Grimes

Academic Unit/Department: Health Sciences

Evaluating an Adaptive Adolescent Afterschool Intervention Based on Participant Feedback to Increase Adolescent Physical Activity

Introduction: Physical activity is important for child development and the prevention of chronic diseases such as high blood pressure and type 2 diabetes. Physical activity also reduces the risk of mental health issues such as depression and anxiety. However, less than 30% of middle schoolers meet the recommended 60 minutes of moderate to vigorous physical activity daily. Moreover, rates are lower for ethnic minority adolescents and adolescents with low socioeconomic status. In response Move More, Get More (MMGM) an after-school physical activity intervention, was developed using formative research and implemented in three public middle schools (6th, 7th, and 8th graders) in Kansas City, MO in 2019. In efforts to continually improve programming and maximize health-benefiting outcomes, soliciting participant feedback is important. Therefore, this study's purpose is to qualitatively assess participant experiences within the program.

Methods: Participants (n=87) from the 2021-2022 cohort of MMGM were surveyed about their experiences in MMGM using three open-ended questions. The questions addressed what the students enjoyed most, what sport(s) students would like added, and what students would change about MMGM to make it better. The responses were thematically analyzed using NVivo software.

Results: Participants were majority African American/Black (71%), 20% Caucasian/White, and 16% Hispanic/Latino participants. Study findings suggest that middle school students enjoyed having fun, spending time with their friends, and the activities and sports played most about MMGM. The students wanted to see more basketball, football, and volleyball within this program. Lastly, when asked what students would change about this program to make it better responses included that they would change nothing, that they want different activities/sports, and that they would make sessions longer or a different day of the week.

Conclusion: This study provided insight into what the students enjoyed the most, along with suggestions on how to improve the program. Findings are consistent with the original formative research used to develop the program. Ultimately, implementing the survey findings will improve enrollment, retention, and most importantly increase physical activity in adolescents.

Danielle Beaubien

Faculty Mentor: Shannon Jackson

Academic Unit/Department: Sociology

The Price of Discipline

We can tell a lot about the values of a society based on how they treat those who violate their rules. There are many ways to ensure individuals adhere to the rules of society, and there are even more ways to punish offenders. It is easy to assume that the way things are is an improvement on what once was. While the damage done by traditional forms of punishment is undeniably obvious, it is sinister to assume that what goes unnoticed today is any kinder. Lurking behind the curtain of heavily privatized punishment, we can explore the impact that discipline (self-inflicted punishment) has had on the mental health of our society. The history of punishment is rich with horrifying tales. Society has shifted away from outright public displays of power over the bodies of those who violate laws. There is a new kind of power that keeps us in line, and it is a power that forces us to regulate and punish ourselves. The ability to alter individual behavior, and hide it entirely, is more infringing upon our rights than the torture of the past, and far more damaging to the psyche. This essay explores the history of punishment and how it has shaped the terrain of self-regulating behaviors that have had a large impact on the mental health of society.

Brandon Camacho

Faculty Mentor: Theresa Torres

Academic Unit/Department: Race, Ethnic, and Gender Studies and Communication Studies

Funding: SEARCH Grant

Mexican American Photojournalist Bruno Torres

My project looks at the forty-one-year career of Mexican American photojournalist Bruno Torres. I'm analyzing his photos and interviews of his life to address major points of his career and the relationships he developed within the workplace as one of the first Mexican American photojournalists and whether or not he faced discrimination in the workplace and in the field. A major piece of this project is interviews with Mr. Torres in which we discuss the risks he encountered and any violence he saw happen to others throughout his career. Major photographs from his career along with his narratives will be the central features of the poster presentation.

Zalyia Carr

Faculty Mentor: Erin Hambrick

Academic Unit/Department: Psychology

Senior Honors Thesis

Diagnosis Differences in Childhood Mental Disorders

In both mental and physical health, it is well known that early detection and treatment of problems is best. This is especially true when diagnosing and treating childhood mental disorders (Fineburg, 2019). Some common childhood mental disorders are Autism, ADHD, and Specific Learning Disorders (SLD). While these are normally diagnosed in early childhood or adolescence, rates of early diagnosis likely differ amongst the demographics. For example, Autism and ADHD are more likely to be diagnosed in boys. Not because there are fewer girls with ADHD and Autism in the world, but because symptoms display differently in girls making it harder to detect (Wood-Downie, 2021). Black children have lower rates of diagnosis for ADHD than White children even though symptoms appear at similar rates (Coker, 2016). Black children are more often diagnosed with disorders such as Oppositional Defiant Disorder and Conduct Disorder than their White counterparts (Fadus, 2019). Studies that analyze signs and symptoms of these disorders aren't diverse. Participants in these studies typically come from western cultures which prevents researchers from accounting for global differences. In studies that do ask for race, the participants are majority White. Studies are more likely to not ask for race, which prevents researchers from identifying and analyzing potential trends among races (Qu, 2020). Because of these factors, I hypothesize that Black women/ girls are at higher risk for delayed accurate diagnosis of mental health problems that typically first appear during childhood, such as Autism, ADHD, and SLD.

Hannah Caviness

Faculty Mentor: Alexis Petri

Academic Unit/Department: Psychology

Senior Honors Thesis

Inclusivity in Action: Proposals for Shifting Views on Neurodiversities in Schools for Better Outcomes in Elementary Education and Beyond

The United States education system is struggling to keep pace with the current learning needs of students as learning needs are fluid and this system is static. An increasing number of students are being recognized as having neurodiversities. Schools need to be able to adapt to all learners' unique strengths and challenges to better support all students. This paper examines how an evidence-based understanding of neurodiversity can shift the way disabilities are thought about in schools and lead to positive changes for students and potentially society. This paper also gives recommendations on how both schools and individual teachers can help create more inclusive environments. Current literature is reviewed and discussed covering important ideas in the fields of disability studies and elementary education. This includes defining neurodiversity, the social model of disability, strengths-based education, and models of inclusive education. Finally, recommendations are made for teachers to implement inclusive practices in individual elementary level classrooms.

Sophia Chabot

Faculty Mentors: Johanna Nilsson & Jake Marszalek

Academic Unit/Department: Psychology Department

Development of a Short Form of the Social Issues Advocacy Scale-2

Sophia Chabot, Alissa Kim, Anum Khalid, Bethany Bierman, Johanna Nilsson & Jake Marszalek

Oppression, discrimination, marginalization, and inequality are still prevalent in today's society. These social, economic, and systematic injustices can lead to worsened psychological and physical health and decrease access to educational and vocational opportunities. Increasing awareness of these issues has prompted several fields, including psychology, nursing, and education, to offer social justice advocacy as part of their training programs.

The Social Issues Advocacy Scale (SIAS) was developed in 2011 to assess social justice advocacy among college students and professionals in mental and physical health services and education. The current version of the scale, SIAS-2, SIAS-2 measures 8 factors: Relationship Building, Political and Social Advocacy, Value of Community Commitment, Social Issue Awareness, Political Awareness, Concepts of Social Justice Advocacy in Myself, Social Justice Identity, and Confronting Discrimination. In our current research, we are working to shorten SIAS 2 into a short form, and this process involves several studies. Participants for the test-retest portion involved students in two undergraduate courses. Evaluating test-retest reliability is important because evidence of the internal validity in the measure ensures that the test is stable over time. The participants were given a demographic questionnaire, and the revised SIAS-2 Short Form and retook the test after 4 weeks.

My responsibility during this project has been to help write the literature section and work on test-retest reliability for the short form. In my presentation, I will discuss the development of the SIAS as well as the test and retest data.

Hannah P. Edwards

Faculty Mentor: Dawn Iwamasa

Academic Unit/Department: Conservatory

Senior Honors Thesis

Music Therapy as a Nonpharmacological Treatment for Post-Stroke Depression: A Scoping Review

Post-stroke depression (PSD) is a well-documented phenomenon which affects upwards of 30% of stroke survivors. The primary treatment for PSD is pharmacological, and research on nonpharmacological intervention is limited. Music therapy uses music to achieve nonmusical goals, such as physical wellness or emotional regulation. While music therapy is often used to address other areas of stroke recovery, research on using it to treat PSD is also limited. PSD increases post-stroke healthcare costs and mortality rates while decreasing the benefit from rehabilitation services. A scoping review was conducted to evaluate current research on nonpharmacological interventions for PSD. Implications for the application of music therapy for PSD, including a clinical framework for using music therapy to treat PSD, is discussed along with further research needs.

Yasmeen Hanon

Faculty Mentor: Rebecca Best

Academic Unit/Department: Political Science and Philosophy

Funding: SEARCH Grant

MENA and the Resource Curse: Establishing A Correlation Between Conflict and Resource Wealth in the Middle East and North Africa

This project assesses the correlation between resource wealth and civil conflict in the Middle East and North Africa (MENA) by using the Yemeni Civil War as a case study.

Based on the commonly cited and often undisputed journal article written by Michael L. Ross (2001), this project assesses the role of the resource curse in contemporary conflicts. Now over twenty years old, Ross's paper may not accurately reflect the current political climate in MENA, which has changed dramatically in the past ten years. Due to the lack of literature on this phenomenon, scholars often cite his paper out of necessity—unknowingly using dated, irreplicable data in their research. This research aims to extend his study with an emphasis on MENA states in a more replicable manner though using methodology inspired by the *Security and Political Economy Lab* at the University of Southern California.

A case study of the Yemeni Civil War (2009- ongoing) was used to build the initial observations surrounding resource wealth and contemporary conflict outcomes in MENA. The Yemeni Civil War can be best summarized as a compilation of pro-government groups, anti-government protesters, external state actors, powerful tribes, separatist groups, and terrorist organizations all seeking control of Yemen, its people, and the resources within the region.

Resources in Yemen are a large part of the economic makeup of the state. These resources include oil, natural gas, water, fish, and agricultural land. However, the sole presence of such resources does not indicate that the resource curse is active in the Yemeni Civil War—further analysis of conflict dynamics is needed to determine its role.

This case study was completed through utilizing blind coding and an expansive list of sources in the assessment of 14 hypotheses and 21 tests. Each hypothesis assesses the correlation between unique phenomena documented in civil conflict and whether resource wealth contributed to the presence of these phenomena.

The results establish that resources such as water, oil, natural gas, fish, minerals, land, and quat play a role in the onset, duration, and intensity of conflict in the Yemeni Civil War. The positive correlation between resource wealth and the tested variables supports the claim that resource wealth—natural gas, oil, or otherwise—directly contributes to the events of the civil war and indicates the presence of the resource curse.

This holds implications which extend past the case in Yemen. Resource wealth outside of natural gas and oil have the potential to impact civil conflict and should be accounted for in the literature with just as much emphasis. Resource wealth and the discovery of resource reserves may be a precursor of upcoming political instability and civil conflict. Using this information, the development of preventative measures and transparency becomes a viable method of preventing or reducing the intensity, duration, and onset of civil conflict.

Hannah Leyva

Faculty Mentor: Zhongjin Li

Academic Unit/Department: Economics

The Discursive Construction in the Platform Economy: The case of Uber

Abstract: Catalyzed by the global financial crisis of 2008, the platform economy has incrementally affected our daily lives in more ways than we can possibly measure. Current discourse frequently refers to the platform economy through synonymous terms such as the “sharing economy” or “e-commerce”. The economic form and related business models of the platform economy are distinguished by the requirement of a digital platform to coordinate and organize consumer and producer relationships. Discourse concerning the platform economy has contentiously been structured and restructured by conflicting perspectives. Due to the almost instantaneous successes of platform companies, corresponding rhetoric was promptly and strategically reiterated to reinforce discourses centered on ideas of convenience, entrepreneurship, and profitability. Take for instance, how the ride sharing platform company Uber interacts with three main groups of stakeholders: customers, drivers, and investors. This study argues Uber perpetuates ideas typically represented in the positive and idealistic promotion of the platform economy. Evaluation of such discourse will follow the framework of critical discourse analysis (CDA). Discourse analysis is beneficial in emphasizing the heterogeneous participation within the platform economy and allows an additional lens of critical scrutiny with the incorporation of social contexts and implications.

Maha Mateen

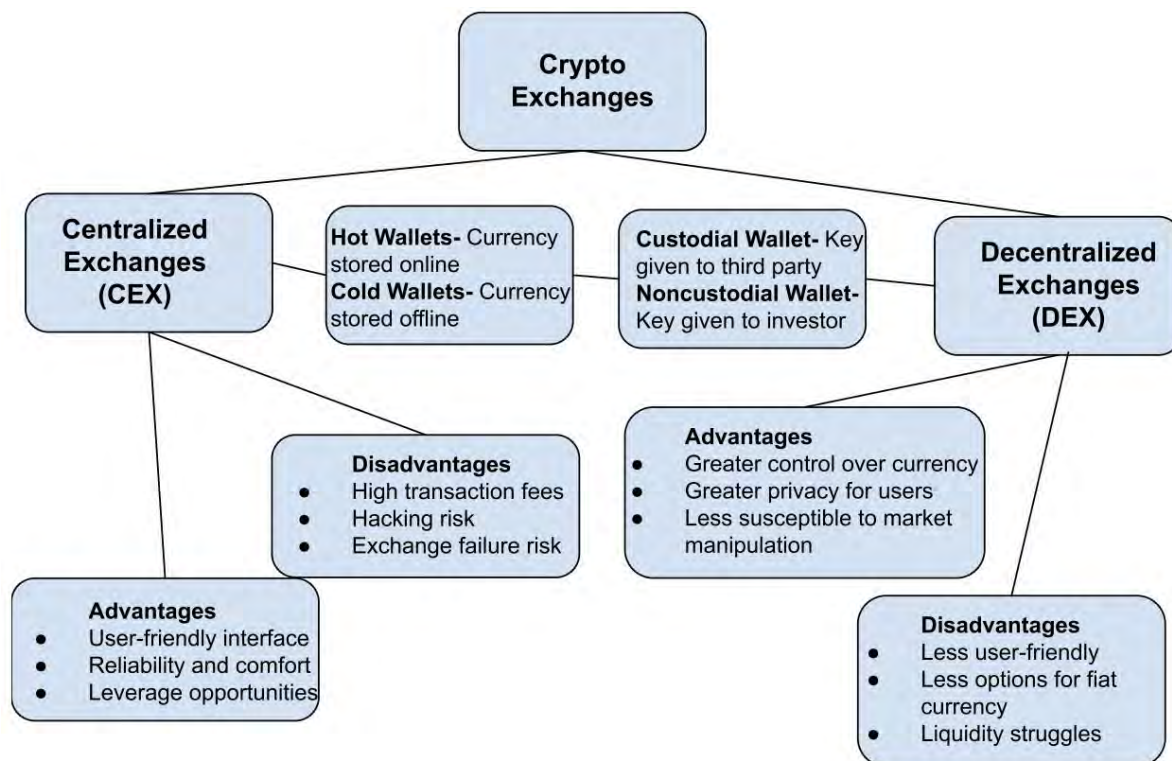
Faculty Mentor: Julie Kay Kline

Academic Unit/Department: Henry W. Bloch School of Business

Senior Honors Thesis

Regulation in Cryptocurrency

The purpose of this paper is to analyze regulation in the cryptocurrency industry. The novel nature of cryptocurrency has created challenges regarding regulation which has created gaps in the market. Large-scale failures in the industry have intensified the need for stricter regulation in the industry. This paper will discuss the Securities and Exchanges Commission (SEC), Commodity Futures Trade Commission (CFTC), Internal Revenue Service (IRS), Financial Accounting Standards Board (FASB), and Financial Crimes Enforcement Network (FinCEN), which are regulatory bodies which have taken responsibility for regulation. It will detail their roles and potential gaps in regulation. This paper identifies a significant gap in regulation caused by large crypto exchanges registering as MSBs with FinCEN. The paper also provides an overview of cryptocurrency by discussing its origin, blockchain technology and cryptocurrency exchanges. This paper will also provide a timeline and analysis of the FTX bankruptcy. The paper concludes that cryptocurrency exchanges require stricter regulation. Lack of regulation is causing crypto exchanges to make risky and/or fraudulent decisions which can endanger investors. Due to lack of academic research on cryptocurrency at this time, analysis was performed by looking at reputable news sources, informational websites, and government organizations. This paper also uses statements and opinions of prominent people in the industry to explain the topic. Below is a visual included in the paper.



Jonah Petitjean

Faculty Mentor: Sirisha Naidu

Academic Unit/Department: Economics

The Attention Economy and Temporal Expropriation: Alienation and Technological Enclosure

When a user opens their phone, social media is often already open, and it would not be unusual for them to ‘accidentally’ lose forty minutes. The slot-machine- style time-distortion design features of Meta Platforms Inc proves itself to be one of their greatest assets in attention and time collection. Attention’s historical context as a fictitious commodity (Polanyi) situates it as a means of production, demonstrating capitalism’s cultural stories of time-value like wage, standardized time, and gendered divisions of labor that persist in expropriation of human reproductive time. Moments are the elements of profit (Marx), and digital capitalism uses a multitude of methods to optimize collection (Huberman 2022). The distinction between productive and reproductive time is denoted in Marxist feminism by the wage (Federici 2002). The attention economy is sometimes understood as a byproduct of social media use, but the mistake of allowing the market to embody a resource in our economic imagination provides a point from which to examine the disembeddedness of economic life from ‘real’ life. Holistic views of attention economics as time-allotment systems in addition to attention’s market value builds landscapes from which to assesses levels of waste and expropriation by digital capitalism. I will use feminist Marxian critiques to highlight social media’s behavioral data and marginal reproductive time collection, misclassified as leisure by absence of wage. Temporal expropriation in communion with addictive qualities in the interface constitute Meta’s attention enclosure — a fence around users to collect ever more moments of life for profit.

Jhalisa Robinson

Faculty Mentor: Joah Williams

Academic Unit/Department: Psychology

The Interconnections of Taste, Smell, & Human Empathy

As someone who loves food, I've always had a deep fascination for why people get swept away and transported into their childhood when they taste and smell something delicious and familiar. My research entails the different connections of how we make these associations with our brain, body, and memories to help us build the capacity to have empathy in children and progress into adulthood.

In a post-Covid society, will people who have lost their taste and smell have a difficulty connecting to the outside world and other people?

Taste and smell are two aspects of our senses that help our body and brain make sense of the outside world. Think of your body as a bank teller constantly storing information while simultaneously comparing to things you've already experienced, and think of your brain as the bank that holds all of our information. The nervous system, the mind, the brain, and the body all work together to collect afferent or incoming information. The part of the brain that is associated with Taste, Smell, and Touch, and Memory is the Temporal Lobe in the Cerebral Cortex. (Garrett, Hough). The image of the highlighted to the left is the temporal lobe. Empathic personality traits have been associated with tactile sensory thresholds. (Schaefer, Kevekordes, Sommer, and Gärtner)

What is Empathy?

Empathy is the ability to understand and share the feelings of a person. It can be a cognitive or emotion response to other people. The area in charge of emotion formation, processing, learning, memory, and linking behavior to emotions is the Cingulate Cortex with the Forebrain. This is why you have an emotion response to your favorite foods, and even feel like you're being transported back in time when you taste them.

Conclusion and Importance

A person has the capacity to remember and store information because of their episodic buffer. The episodic buffer is a mechanism of memory storage while simultaneously increasing one's capacity to perform a behavior or action. For example, remembering a recipe "by heart", or procedural memory. This means we have the innate ability to learn as well as unlearn by using our basic senses to connection to others, especially the ones we love.

Rayna Rucker and Amanda Clay

Faculty Mentor: Ekaterina Strekalova-Hughes

Academic Unit/Department: Teacher Education and Curriculum Studies

Funding: SEARCH Grant

Affordances of Play Provocations in an Early Childhood Classroom: Action Research Project

Abstract

The purpose of our project is to conduct action research (McNiff, Lomax & Whitehead, 2003) in a toddler classroom to explore how our actions as co-teachers increase learners' curiosity and participation in play provocations (or invitations). Play provocations are open-ended arrangements of materials that invite children to explore and manipulate them to generate curiosity, imagination, and problem solving (Strong-Wilson & Ellis, 2007). We wanted to explore how to design play provocations that increase our learners' involvement in play spaces and how their curiosity would be impacted. We have systematically documented how changes in our intentional design, placement, and timing of play provocations impact our learner's curiosity and participation in play. Our research employs participatory action research methodology. Action research is an "intervention in personal practice to encourage improvement for oneself and others... driven by educational values that need to be explored and defended" (McNiff, Lomax & Whitehead, 2003, p. 530). To carry out our action research, we designed and introduced two new play provocations a week throughout the Spring 2023 semester. We have systematically collected data on our actions, experimenting with how strategic changes in play provocation design, materials, location in the classroom, and time of the school day are taken up by children. Collected data was documented in the form of reflective journals, lesson plans, photos, videos, and anecdotal observations of the toddlers engaging with play provocations. The participants in this project consisted of eight toddlers ranging from sixteen to twenty-one months old. We drew conclusions on the effectiveness of our actions based on the number of participants who chose to engage with the play provocation, how long learners maintained attention, and how they explored the materials and with whom. The data we have collected thus far has offered insights that the location of provocations in the classroom, the degree of the invitation, and the types of materials can impact the level of engagement of toddlers. For example, we observed that when provocations are set up with intention (photo, left) compared to the same materials laid out in stacks (photo, right), all eight learners explored at the intentional provocation longer. We continue to explore and experiment with how thoughtful provocations intrigue and invite toddlers to play and learn, contributing to an underrepresented area in education research.



Noah Sims

Faculty Mentor: Joah Williams

Academic Unit/Department: Psychology

Impact of Personality on Criminal Behavior

Abstract

With over two thousand years of research, personality has been on the mind of many researchers. Personality defines who we are and is observed from differing characteristics or qualities that form one's character. There are certain personality traits that may be associated with criminal behavior but there may be different factors that contribute to this as well. Childhood experiences, social groups, and personality traits of criminals are among these factors. Several journal articles and review articles are assessed to answer if future criminal behavior can be predicted by an examination of one's personality.

Alyssa Squires and Zack M. Smith

Faculty Mentor: Melisa Rempfer

Academic Unit/Department: Psychology

Mental Health Among the Religious and the “Nones”: Examining Attitudes Toward Conventional and Alternative Approaches to Mental Health Care

Alyssa Squires, Zack M. Smith, Emily A. Blanco, M.A., J. Hunter Howie, M.A.,
Melisa V. Rempfer, Ph.D.

Statement of the Problem: Many studies have explored the relation between religiosity and mental health, and the majority of these have found a positive relationship between these constructs; however, fewer of these studies have specifically investigated individuals with no religious affiliation (the “Nones”), such as those who identify as agnostic or atheist. Some evidence suggests that agnostic individuals might have lower levels of mental health than both religious people and atheists, but the reasons for this phenomenon are still uncertain. The present study aimed to compare subjective mental health outcomes among three groups of people (religious, agnostic, and atheist) and to explore whether attitudes toward both conventional and alternative mental health treatments differ between these groups. **Subjects and Procedures:** Subjects were recruited via an online research portal and through social media. Participants were asked to answer a series of survey questions related to mental health, religious affiliation, and attitudes towards mental health treatment. Survey items were developed through an Explanatory Models (EM) of mental illness framework and in collaboration with a subject matter expert. Participants were between the ages of 18 and 68 ($M = 25.50$; $SD = 8.98$), with 66% White, 7% Black, 9% Asian, 8% Hispanic or Latino, and 10% mixed race or other. One-way ANOVA and post-hoc tests were used to compare mean scores of subjective mental health and self-reported agreement with statements of the utility of conventional and alternative methods of mental health care between the three groups. **Results:** Analyses revealed differences in subjective mental health ratings between groups. The religious group evidenced greater subjective mental health ($M = 6.1$, $SD = 2.0$) compared to agnostic ($M = 4.9$, $SD = 2.0$) and atheist ($M = 5.0$, $SD = 2.2$) groups. No differences in subjective mental health were found between agnostic and atheist groups. Additionally, no differences in agreement with the utility of conventional methods of mental health care were found between the three groups. However, the religious group evidenced greater agreement with statements indicating the utility of alternative methods of mental health care ($M = 3.3$, $SD = 1.1$) compared to agnostic ($M = 1.9$, $SD = 0.6$) and atheist ($M = 1.6$, $SD = 0.6$) groups. No differences in level of agreement with statements indicating the utility of alternative methods of mental health care were found between agnostic and atheist groups. **Conclusions:** Our study replicated a proposed relationship between religiosity and mental health in the literature, and extended existing research by examining attitudes toward conventional and alternative methods of mental health care between religious, agnostic, and atheist groups. It may be that religious individuals evidence greater subjective mental health due in part to a willingness to engage in both conventional and alternative methods of mental health care, representing a broad array of strategies for buffering stress and cultivating wellness; however future studies are warranted to confirm or disconfirm this interpretation. Additionally, future research may explore potential mediating factors between agnostic and atheist individuals’ similar perceptions in order to improve the field’s knowledge of underlying causes that impact these individuals’ attitudes toward seeking, receiving, and engaging in mental health care.

Cynthea Thompson

Faculty Mentor: Amanda Grimes

Academic Unit/Department: Health Sciences

Funding: SEARCH Grant

Conducting walk audits with Girls on the Run to develop a youth-informed pedestrian map

Introduction: Evidence shows that physical activity is promoted by the built environment. However, there are areas that are problematic and dangerous which lack safe routes to local destinations. Implementing walk audits in local communities can help to identify and provide tools to advocate to decrease hazardous routes and increase physical activity opportunities for community members.

Methods: Youth participants of a community-based intervention conducted a walk audit and environmental assessments as part of an advocacy project to assess the built environment around the children's hospital (n=6). A subset of youth (n=3) participated in a focus group to discuss their findings they identified in the walk audit.

Results: Youth participants identified damaged sidewalks and tactile paving (textured surface indicators that assist vision-impaired pedestrians) as barriers to physical activity through the walk audit. Participants suggested repairs be made to sidewalks for better access to walkable areas that decrease safety concerns. Youth concluded the project with suggestions to improve the area's landscaping to make the scenery more enjoyable. Safety precautions were a great concern because of hazardous off-street parking along with heavy traffic which is a safety threat for pedestrians. Other suggestions were to improve bike lanes and to add signage leading community members to the hidden playground and garden located in the area.

Conclusion: Youth participants learned about issues in the area surrounding the children's hospital that decrease walkability for pedestrians and suggested solutions. Built environment initiatives should consider emphasizing community empowerment as an important tool in health promotion. Community based programs teach the importance of community-based participation while incorporating lessons to improve the built environment.

Angel Williams

Faculty Mentor: Dr. Berkeley-Patton

Academic Unit/Department: Psychology

What is the Association Between Black American Spirituality/Religious Behaviors and Fruit/Vegetable Consumption?

Fruit and vegetable (FV) consumption has historically been a concern among the ~~entire~~ U.S. population. Black Americans represent 13% of the U.S. population and are disproportionately affected by the FV deficit. Research indicates that the Black church may have a positive impact on this concern. Specifically, one study examined religious beliefs and healthy food consumption among Black church members and found majority of participants endorsed healthy eating as a way of treating their body as a temple of God. Many studies examined the Black church and FV consumption, however fewer studies have examined the relationship between religious/spiritual beliefs and FV consumption. Using baseline data from the Faith Influencing Transformation (FIT) project, a Black church-based intervention, this study examined the relationship between identifying as religious and FV consumption. Participants (n = 1056) were majority female (68.1%), Black (96.6%), with an average age of 53. Most participants were church members (88.3%), endorsed being-religious (83.1%) and eating fruit (45%) and vegetables (54%) 3-6 times a week. Correlational analysis indicates a significant relationship between identifying as religious, engagement in religious activities (e.g., prayer, reading scripture) and FV consumption. Chi-square analysis indicates a positive relationship between identifying as religious and FV consumption.

Being religious can lead to increased FV consumption potentially due to specific religious beliefs (e.g., my body is a temple) or encouragement from trusted Black church leaders.

Researchers should consider ways to use the church to address FV consumption concerns for non-religious individuals (e.g., agnostic or atheist but using church outreach services).

BIOLOGICAL & LIFE SCIENCES

Resistance Training

Introduction:

Resistance training, also known as strength training or weight training, is a form of exercise that involves using resistance to build muscular strength and endurance.

Increased Muscle Mass and Strength:

Resistance training has been shown to increase muscle mass by an average of 2-4% after just 8-12 weeks of training. Moreover, resistance training has been shown to increase strength by an average of 30-40% after just a few months of training.

Improved Bone Density:

Resistance training has been shown to increase bone density by an average of 1-3% after 6-12 months of training. Moreover, resistance training has been shown to reduce the risk of osteoporosis by 40-60%.

Improved Metabolic Function:

Resistance training can improve metabolic function by increasing insulin sensitivity by 23-58%. This can help reduce the risk of type 2 diabetes and other metabolic disorders.

Improved Cardiovascular Health:

Resistance training can improve cardiovascular health by lowering systolic blood pressure by 2-4 mmHg and diastolic blood pressure by 1-3 mmHg. Moreover, resistance training can improve lipid profiles by decreasing total cholesterol by 5-10% and LDL cholesterol by 5-15%.

Conclusion:

It is recommended that individuals perform resistance training at least 2-3 times per week, targeting major muscle groups with 8-12 repetitions per set, and 1-3 sets per exercise. The load should be sufficient to cause fatigue in the last few repetitions but not to the point of failure.

Resistance training is a highly effective form of exercise that offers numerous benefits for overall health and wellbeing. From increased muscular strength and endurance to improved bone density and reduced risk of chronic disease. Resistance training is an important component of a healthy lifestyle.

Wuraola Awopetu

Faculty Mentor: Cynthia Russell Lippincott

Academic Unit/Department: School of Nursing and Health Studies

A Secondary Data Analysis of the Effect of Habit Strength in the SystemCHANGE™ Intervention Compared to an Educational Attention-Control Intervention on Medication Adherence in Adult Kidney Transplant Recipients: The SHASH Study

Background:

Medication nonadherence is an obdurate problem in adult kidney transplant recipients resulting in costly poor outcomes. An innovative approach called SystemCHANGE™ has demonstrated efficacy in improving an array of health behaviors and conditions. Habit strength has predicted medication nonadherence in chronic illnesses. The next step in evaluating the SystemCHANGE™ mechanism is to examine habit strength in adult kidney transplant recipients.

Purpose: The purpose of this study is to examine habit strength of the medication adherence data from the SystemCHANGE™ intervention group and the attention-control intervention group of adult kidney transplant recipients from the MAGIC study at 6 months and 12 months.

Design: The parent study, called the MAGIC study, used a single-masked (participants), 2-arm randomized controlled trial (RCT) and repeated measures. This study is a secondary data analysis of the parent study data. The 6 month SystemCHANGE™ intervention taught patients to use person-level quality improvement strategies to link adherence to established daily routines, environmental cues, and supportive people. The 6 months attention control educational intervention also taught patients about healthy living with a transplant. A 6 month maintenance phase followed with no intervention but electronic medication monitoring continued.

Setting: Participants were recruited from five midwestern and southern transplant centers.

Sample: 84 adult kidney transplant recipients.

Instrument: The Medication Event Monitoring System (MEMS) was used to measure medication adherence. Habit strength, operationalized as individual-level variance in pill timing, was measured by examining electronic medication monitoring dose-timing variance.

Procedure: Institutional Review Board approval was obtained from University Of Missouri-Kansas City. Demographics, habit strength and medication adherence data will be extracted by the data analyst from the de-identified data set.

Results: Results are pending.

Discussion: We expect some demographic variables to be associated with habit strength, though which specific ones we cannot predict. We anticipate stronger habit strength will be associated with medication adherence in adult kidney transplant recipients.

Implications for practice: If habit strength predicts medication adherence, measuring habit strength in practice could help us identify those who need intervention to improve habit strength and thus medication adherence. If demographic variables associated with habit strength are found, they could be used to identify those who need habit strength interventions.

Trevor Bell

Faculty Mentor: Michael O'Connor

Academic Unit/Department: Division of Biological and Biomedical Systems

Funding: National Institutes of Health grant #R15GM132752 to Michael O'Connor

Interactions Between 16S rRNA Methylation at G527 and S12 Mutations Affecting Streptomycin Resistance, Growth, and Fidelity in *E. coli*

Trevor Bell, Amanda Merryman, Juliana Joseph, Rowan Turner, & Michael O'Connor

Abstract

Protein synthesis is accomplished by the complex machinery of the ribosome interacting with aminoacyl-tRNA to translate mRNA sequences into polypeptides. The bacterial ribosome consists of rRNA and ribosomal protein components that form the large (50S) and small (30S) subunits. These components must work together for successful codon-anticodon pairing as well as the initiation, elongation, and termination phases of protein synthesis. Ribosomal RNA may contain modified bases in addition to the A, U, C, and G ribonucleotides. One such modification is the methylation of G527 (^{m7}G527) in 16S rRNA in bacteria, which is located in the 30S subunit and is instrumental in all phases of translation. The 16S methyltransferase responsible for the ^{m7}G527 modification is encoded by *rsmG*. Deletion of *rsmG* has been found to confer low-level streptomycin resistance in several bacteria. Encoded by *rpsL*, ribosomal protein S12 is found in the 30S subunit where it plays a critical role in mRNA decoding functions. Certain S12 mutants have been found to confer streptomycin resistance as well as altered translation fidelity. Using *E. coli* as the model system, we have investigated the potential interactions between ^{m7}G527 in 16S rRNA and ribosomal protein S12 by examining the growth, streptomycin resistance, and translation fidelity phenotypes of previously isolated *rpsL* mutants with and without the deletion of *rsmG*. We find that a subset of S12 mutants show increased resistance to streptomycin with the deletion of *rsmG*. We also find that the absence of ^{m7}G527 in certain S12 mutants will severely lengthen their growth rates when compared to *rsmG*⁺ mutants. These data suggest an interaction between ^{m7}G527 in 16S rRNA and ribosomal protein S12. Additionally, we have begun to investigate the interaction of ^{m7}G527 with mutations in 16S rRNA and ribosomal proteins S4 and S5; these mutations also affect streptomycin resistance and translation fidelity.

Christopher Brown

Faculty Mentor: Leonard Dobens

Academic Unit/Department: School of Science and Engineering

Cryptic COP1 interactions can be detected in some developmental contexts in *Drosophila*, an Abstract

Drosophila melanogaster is a model organism whose shared evolutionary ancestry with humans provides meaningful opportunities for useful research that is applicable to humans and other Eumetazoans. Many of the genes which researchers have found to be tied to human cancers are genes that regulate the development of the human body. Human developmental genes, particularly transcription factors and other genes that are critical for cell growth, differentiation, and proliferation, are among those genes whose improper expression has been found to lead to cancer. Many of these developmental genes are conserved across Eumetazoa and therefore have homologs in the *Drosophila* genome. One example of these is the gene which encodes C/EBP transcription factor. C/EBPs, or CCAAT-enhancer-binding proteins are a family of transcription factors in mammals such as humans and mice. In 1992, Montell and others discovered that the *Drosophila* genome contains a C/EBP homolog which they named *slbo*, and that Slbo protein drives the migration of a group of follicle cells in the developing stage-10 *Drosophila* egg chamber known as the border cells. The border cells are responsible for the correct formation of the micropyle, the structure in the *Drosophila* eggshell that permits sperm to enter and fertilization to occur. In human biology, it is known that human Tribbles proteins serve as adaptors to link C/EBP to the proteasome-ubiquitination pathway via COP1 ubiquitin ligase protein. In this interaction, C/EBP is downregulated by the human Tribbles homologs Trib1 and Trib2 in a process where the Tribbles molecule first binds to the C/EBP molecule, then this triggers COP1 binding domains on the Trib protein to be allosterically activated, allowing the Trib protein to recruit and bind a COP1 molecule which ubiquitinates the C/EBP, then the complex dissociates and C/EBP is marked for degradation by the proteasome (Jamison et al. 2018). It has been shown that, in *Drosophila*, the turnover of Slbo protein is also facilitated by Tribbles protein and is achieved by ubiquitination (Rorth et al, 2000). However, the mechanism for ubiquitination of C/EBP (Slbo) in *Drosophila* by Tribbles has remained elusive because the sequence of the proposed COP1 binding motif of the *Drosophila* Tribbles molecule was found to lack similarity with known mammalian Tribbles COP1-binding motifs (Dobens and Bouyain 2014). Researchers also have not identified a homolog for the COP1 ubiquitin ligase protein in the *Drosophila* genome to date (Nauman et al. 2021). Here we show by mis-expressing mouse COP1 in the border cells of the stage 10 *Drosophila* egg chamber that *Drosophila* regulate C/EBP turnover via Tribbles protein without the use of a COP1 homolog. We also demonstrate that co-expression of Tribbles and mouse COP1 in the *Drosophila* wing results in a new phenotype, implying that *Drosophila* conserve some cryptic COP1 interactivity within their Genome.

Victoria Cegielski

Faculty Mentor: Peter Koulen

Academic Unit/Department: Vision Research Center, Department of Ophthalmology

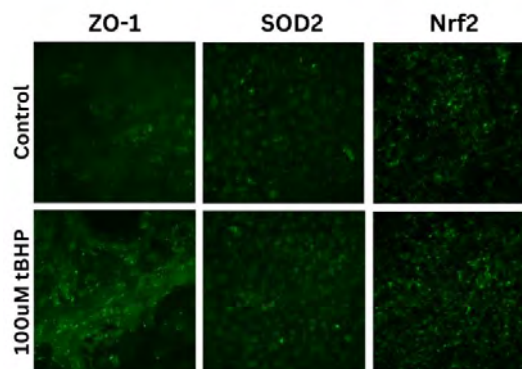
Changes in Protein Expression in Retinal Pigment Epithelia Under Conditions of Oxidative Stress

Victoria Cegielski, Scott Duncan PhD, Peter Koulen PhD, FARVO

Age-related macular degeneration (AMD) affects over 8 million Americans and is the leading cause of irreversible blindness in people over 50. Numerous causes of pathogenesis have been postulated including oxidative stress with resulting damage in retinal pigment epithelia. Some papers have suggested a correlation between the innate immune system signaling pathways and signs of early AMD. Our focus is on the innate immune response, including expression of specific proteins under oxidative stress. Zonula occludens 1 (ZO-1) is a scaffolding protein important for cell adhesion and cytoskeletal reorganization. Superoxide dismutase 2 (SOD2) is a cytoprotective protein that catalyzes free radicals to protect cells from oxidative stress. Nuclear factor erythroid 2-related factor (Nrf2) is another cytoprotective protein that regulates antioxidant response through gene transcription.

Human telomerase reverse transcriptase (hTERT) and induced pluripotent stem cell-derived (iPSC) retinal pigment epithelia (RPE) are immortalized cell lines that are effective models for protein expression. Primary antibodies against our proteins of interest, ZO-1, SOD2, and Nrf2, were utilized to determine how protein expression changed under conditions of oxidative stress in RPE. Tert-butyl hydroperoxide (tBHP) was our marker of oxidative stress. Fluorescence confocal microscopy and Fiji analysis were used to quantify expression.

Our results showed that ZO-1 and SOD2 were upregulated in RPE exposed to tBHP compared to control RPE. Nrf2 was downregulated in RPE exposed to tBHP compared to control.



ZO-1, SOD2, and Nrf2 are proteins of interest in the pathogenesis of AMD. ZO-1 upregulation indicates that oxidative stress induces adhesive changes and cytoskeletal reorganization in RPE. SOD2 upregulation is consistent with this protein's antioxidant function. Nrf2 downregulation indicates that this protein may not be adequately produced in stressed RPE. Literature further supports that Nrf2 signaling is impaired in aging RPE with oxidative insult. This suggests that Nrf2 may be a protein for further investigation in AMD pathogenesis given its inadequate expression and signaling under conditions of oxidative stress.

Kylie Cushing and Logan Baerman

Faculty Mentor: Dr. Ryan D. Mohan

Academic Unit/Department: School of Science and Engineering, Molecular Biology

Funding: National Institute of Neurological Disorders and Stroke

Examining regulation of the SAGA-DUBm complex during sleep deprivation in *Drosophila melanogaster*

Sleep is a physiologically necessary process, characterized by temporary immobility and reduced responsiveness. Sleep deprivation results in a bout of accumulated sleep called rebound. Preliminary work in our lab shows sleep deprivation influences protein levels in the brain. Protein degradation at the molecular level is regulated in part by ubiquitination, a post-translational modification regulated by ubiquitinating and deubiquitinating enzymes (DUBs). Our preliminary data shows that subunits of the SAGA deubiquitinase module (DUBm) are regulated in a circadian pattern; we now focus on the effects of sleep deprivation on SAGA complex composition and function on downstream effectors. Using male and virgin female *Drosophila melanogaster*, we perform mechanical sleep deprivation to observe changes in protein expression. Single *Drosophila* reside in plastic tubes containing a food source. Using locomotor activity monitor systems, we collect the flies' movements before and during mechanical sleep deprivation. Sleep deprived *Drosophila* are then used in Western Blotting to analyze protein levels. Our efforts have been centered on modifying the experimental protocol; thus far quantification of the data has shown sleep deprivation to be effective. We continue to collect data, and work to find patterns in regulation of the SAGA-DUBm complex subunits through Western Blotting. Understanding these complex biochemical processes can offer insights into how to protect against the negative consequences of sleep deprivation. Here, we present our work on showing the efficacy of the model. These insights will be some of the first steps to understanding the extent of how sleep deprivation impacts the human brain and how we can protect against its consequences.

Anthony DeWald

Faculty Mentor: Leonard Dobens

Academic Unit/Department: Biological Sciences

Funding:

Development of Tools to Study the Effects of Drosophila Slbo Containing Tribbles Degron Mutation

Tribbles (Trbl) proteins are a family of pseudokinases that plays an important role in protein turnover. Through the study of Drosophila ovaries, we have been developing tools to further study how a mutation of the Trbl degron in Drosophila Slbo protein mediates the turnover of Slbo and how this affects border cell migration and centripetal cell patterning during oogenesis. To better study this interaction, we have designed both Myc-Trbl and HA-Trbl transgenes with both protein tags located on the N-terminus of the fusion protein, using GATEWAY cloning. The other approach we have taken is to create a Trbl degron for Slbo fused to GFP, again using GATEWAY cloning to build this fusion protein. We will present ongoing results from these projects. In the future, the goal is to use these tools to further study Slbo and Tribble interactions in Drosophila and to explore the ways Tribbles regulates Slbo.

Gavin Hysten

Faculty Mentor: Caroline Davies

Academic Unit/Department: Earth and Environmental Sciences

Funding: SEARCH Grant

A Comparison of Agricultural and Urban Soils Using a Whole Ecosystem Approach

Abstract

The health of agricultural soils is a growing concern for farmers globally. The intensive nature of modern industrial agriculture stresses soil and its ecosystem. This has led to the degradation of soil in many rural areas and resulted in a system dependent on inputs of fertilizer to maintain soil health and to increase yield. Urban soils are also highly impacted and degraded. Urban areas increasingly play an important role in human life and increasingly need to be available for food production. As of 2021 56.61% of people globally live in urban areas with this number expected to increase to 68% by 2050. The mineral and chemical indicators traditionally used to determine soil health do not reflect the actual health of the microbial ecosystem. In comparison a whole ecosystem approach takes into account the extensive ecology of the soil microbiome. Bacteria and fungi within the soil are incredibly important for increasing productivity, providing essential nutrients, and maintaining overall soil health. Understanding microbial communities produced by a range of agricultural approaches informs best practices for regeneration of urban and agricultural soils for food production.

Nusaybah Ibrahim & Laylah Liwaru

Faculty Mentor: Hillary McGraw

Academic Unit/Department: Division of Biological and Biomedical Systems

Funding: SEARCH Grant

Foxg1a regulates craniofacial development in the zebrafish

Many human developmental disorders are related to genetic mutations and a critical method for understanding these mutations is through the study of biological model organisms. Our project uses the zebrafish as a model to study the development of the jaw and how this relates to human development. Foxg1 is a gene that is critical for embryonic development. In particular, Foxg1 regulates the development of the forebrain as well as ear and eye formation. Foxg1 regulates cellular proliferation, differentiation and morphogenesis. Our work focuses on a zebrafish foxg1aa266 mutant line, which was generated using CRISPR-Cas9 genome editing (Thyme et al. 2019). Preliminary analysis of the foxg1aa266 mutants reveals defects in cartilage elements of the developing jaw. The mutants have abnormal joint development, narrow heads, and early lethality. In humans, Foxg1 mutations are linked to Foxg1 syndrome, which is defined by defects in neural development, intellectual disability, disrupted circadian rhythm, and social withdrawal. Our research focuses on the craniofacial abnormalities, specifically in the lower jaw in a Zebrafish with a foxg1 mutation. Understanding these connections of craniofacial defects and the foxg1 mutation will help in uncovering how the mutation affects human development.

Radnyee Kandlur

Faculty Mentor: Zachary Fischer

Academic Unit/Department: Division of Biological and Biomedical Systems

Funding: SEARCH Grant

Investigation of the Molecular Interface between Trbl and Slbo

Tribbles family proteins (Tribbs) are known to play an important role in the regulation of cell division, migration, differentiation and growth. *Drosophila* Tribbles (Trbl) was discovered in flies as an antagonist to Slbo (slow border cells). During oogenesis, a cluster of cells called border cells migrate from the anterior to the posterior of the egg chamber via intracellular signaling pathways, paracrine signaling, and molecular guidance factors. In particular, this migration requires the expression of Slbo and induction of Tribbles expression functions to fine-tune the timing of this migration by regulating Slbo turnover. However, the molecular nature of this interaction remains unknown. Previously, using protein prediction software and protein structure comparison, our lab identified a residue (H227) that we propose is required for the Trbl-Slbo physical interaction. Our lab designed a transgenic fly bearing a mutation at this site (Trbl H227A) downstream of a UAS promoter. Using the GAL4-UAS binary expression system, I can express this mutant Trbl protein in specific tissues and developmental stages. I propose that expression of this H227A mutant will inhibit the interaction between Trbl and Slbo. I will test this hypothesis using two approaches. First, I will use as a model tissue the fly wing. Our lab has observed that misexpression of Slbo in the developing wing posterior is lethal, but co-misexpression with Trbl rescues this lethality, likely due to Trbl-dependent slbo turnover. I propose that co-misexpression of slbo and Trbl H227A in the developing wing will not rescue this slbo lethality. Second, I will test the effect of this Trbl mutant in the migrating border cells within developing egg chambers. Overexpression of Trbl in the border cells slows border cell migration. I propose that expression of the Trbl H227A mutant will not affect border cell migration. These data may further inform our understanding of the Trbl-Slbo interaction and could suggest treatments for diseases caused by perturbations to this signaling pathway in humans.

Lakshmi Kasi

Faculty Mentor: Bini Moorthy

Academic Unit/Department: School of Medicine

Case Report: Somatic-Type Delusional Disorder

Abstract: Delusional disorder is the presence of an unshakable false belief.¹ Our patient had somatic-type delusional disorder. At age 31, he had severe pain and associated symptoms for which he received narcotics and multiple procedures, including surgery. However, there was not a clear medical reason for his pain, and nothing helped his pain. Two decades later, he believed he had *Sporothrix schenckii*, a fungal infection, which he did not. He was treated with an antipsychotic but didn't have significant improvement in his delusions.

Keywords: Somatic Symptom Disorder, Delusion, Parasitosis

Introduction: Delusional disorder is the presence of one or more delusions for a minimum of a month.¹ Somatic-type delusional disorder is a clinical diagnosis after organic and substance-induced causes are ruled out.² Treatment of delusional disorder is psychotherapy and antipsychotic medication.² Here we are reporting a case of somatic-type delusional disorder in a 55-year-old white male patient.

Case Report: The patient is a 55-year-old male. He first presented at our hospital ED at age 31 in 1999 for numbness, tingling, aching, and electrical shooting pain from his neck down his fingers. In 2004, he was started on several pain medications, including oxycodone 10 mg and hydrocodone 5 mg as needed. Over the years, he had many tests done, saw many physicians, had several procedures. None of these improved his pain.

In May 2021 he believed he had *Sporothrix schenckii*, a fungal infection. He reported brain fog, inability to concentrate, itchiness, stinging, and bugs crawl on his skin for the past year. He self-treated with ivermectin, potassium iodide, and pineapple juice, which gave him some relief.

The patient had Generalized Anxiety Disorder (GAD), MDD, extreme distress and depressive lows. He had suicidal ideations, which resolved. He grew apart from friends and family due to the infection. He was treated with loxapine 10 mg every morning and diazepam 10mg as needed for his delusions and distress but did not have significant improvement.

Discussion: Diagnosing, treating, and better understanding somatic-type delusional disorder is important because it has great consequences on patients' well-being and safety. Delusional disorder that is not appropriately treated is associated with depression and can lead to patients becoming alienated from others.² Our patient felt isolated from friends and family due to his somatic-type delusional disorder. Our patient also self-medicated, which can be harmful.

While the MMPI-2 is not indicated to assess somatic-type delusional disorder per DSM-V guidelines,¹ it was found helpful to assess a patient's improvement in another case report.⁷ Since somatic-type delusional disorder is a diagnosis of exclusion and a clinical diagnosis, it would be helpful to have a standardized inventory to assess it. More research on the MMPI-2 in patients with somatic-type delusional disorder would be needed to determine if it could help with the diagnosis of the disorder and/or assessment of improvement of the disorder

Lakshmi Kasi

Faculty Mentor: Bini Moorthy

Academic Unit/Department: Biological and Health Sciences

Illness Anxiety Disorder Post COVID-19

Abstract

Introduction: Illness Anxiety Disorder is a preoccupation with having or acquiring a serious illness.¹ The patient experiences severe anxiety about their health and has excessive health-related behaviors despite having normal physical examination and laboratory testing.^{1,2} The estimated prevalence of IAD is 1.3% to 10% in the general population.³

Case Report: The patient is a 58-year-old African American woman with generalized anxiety disorder (GAD), depression, post-traumatic stress disorder (PTSD), dyssomnia, alcohol use disorder, and tobacco use disorder. She had mild COVID-19 at 56 years-old in August 2021, which did not require hospitalization. Since then, she has reported memory deficits, brain fog, confusion, fatigue, dizziness, numbness, ansomnia, and ageusia. She had a vitamin B12 and folate deficiency secondary to her use of alcohol. Her MRI, SLUMS, and MoCA were normal. She was anxious and distressed. The remainder of her physical examination and mental status examination were normal. She did not participate in psychotherapy. She experienced some relief with her medications.

Discussion: Our patient has care-seeking type IAD. One risk factor for developing IAD is having an underlying anxiety disorder such as GAD,⁴ which our patient had. COVID-19 resulted in a 25% increase in prevalence of anxiety worldwide.⁵ The correlation between IAD and COVID-19 has not been researched in America. A cross-sectional study in Iran found that the prevalence of IAD in individuals whose relatives had a history of COVID-19 was 5.32 times higher than the prevalence of IAD in the general population.⁶ Future research would be needed to determine the increase in prevalence of IAD in the general population since COVID-19 as well as the increase in prevalence of IAD in patients who have a history of COVID-19.

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Lakshmi Kasi, Neehar Shah

Faculty Mentor: Himil Mahadevia, Jennifer Von Ende, Jennifer McBride

Academic Unit/Department: School of Medicine

Altered Mental Status with Manganese Deposition in the Brain

Abstract

Introduction:

Manganism is a neurologic disease caused by elevated serum manganese (Mn).¹ Here, we present a case of a 55-year-old male with altered mental status (AMS) suggestive of Manganism but no definitive diagnosis. Other possible diagnoses include Porphyria and Hepatic Encephalopathy

Case Report:

The patient is a 55-year-old, white male who presented to the emergency department with AMS that began two weeks prior. He had tangential, rambling speech and a flight of ideas. He was oriented to self and place but not situation. MRI showed increased T1 hyperintensities in the bilateral globus pallidus, which was suggestive of Mn deposition. Significant labs included an elevated serum Mn at 1.6 mcg/L (reference range is <1.2 mcg/L) and a low ferritin.

Psychiatry started the patient on Haldol on hospital day 6 for his delirium. Per Neurology recommendation, he was started on Vitamin E on hospital day 9 and Ferrous Sulfate on hospital day 11 for possible Manganism. His AMS improved but never returned to his baseline and was discharged after 17 days.

Literature Review:

Divalent metal transporter-1 (DMT-1) is the primary transporter for Mn 2+ across the blood-brain barrier.² Mn 3+ is transferred into the CNS through the transferrin-receptor complex.² Iron (Fe) deficiency can upregulate DMT-1 and transferrin, leading to increased Mn uptake in the CNS.² Mn causes cytotoxicity through mitochondrial dysfunction, impairment of dopaminergic, cholinergic, and GABA neurotransmitters.³ Treatment includes CaNa2EDTA, para-aminosalicylic acid, Fe supplementation, Vitamin E supplementation.²

Discussion:

Manganism - This patient never worked in a field with Mn exposure. While his brain MRI was suggestive of Mn deposition, his Mn level was lower than expected for Manganism. He had emotional fluctuations and AMS but did not have extrapyramidal tremors or muscle rigidity characteristics of Manganism.²

Porphyria - His neurologic impairment could be explained by porphyria. He did not have photodermatitis, severe abdominal pain, or autonomic dysfunction characteristic of Porphyria.⁴ Sudden onset of Porphyria after age 40 is very unlikely.⁵

Hepatic Encephalopathy - The patient had a history of decompensated liver cirrhosis. Ammonia was elevated. He did not have sleep-wake cycle changes and asterixis.⁶ His condition did not improve with 17 days of rifaximin and lactulose.⁶

The patient had characteristics that could be attributed to several clinical conditions, but no definitive diagnosis could be made. Thus, his clinical presentation is bewildering.

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Jessica Kim

Faculty Mentor: Ryan Mohan

Academic Unit/Department: Division of Biological and Biomedical Systems

Funding: Undergraduate Research Associate Position

SAGA is a dynamic circadian complex involved in Spinocerebellar ataxia type 7

SCA7 is a condition that impacts coordination, balance, speech, and vision. This disease arises from mutations in the SCA7 gene, which lead to an abnormality in the Atxn7 protein. Specifically, there is an excessive amount of cytosine-adenine-guanine (CAG) repeats in the protein's terminal region. Atxn7 serves as a component of the SAGA (Spt–Ada–Gcn5 acetyltransferase) complex, a crucial co-activator and chromatin remodeling system involved in transcription.

Our laboratory focused on sleep disorders, among the many symptoms observed in patients with spinocerebellar ataxia type 7, because they are associated with an early onset of the illness. We became curious about the underlying cause of these sleep disorders in SCA7 and hypothesized that the SAGA complex may function as a circadian complex. This prompted us to undertake an investigation.

Our research revealed that the relative proportions of SAGA subunits alter throughout the day. Notably, two critical elements of the SAGA deubiquitinase (DUB) module, Ataxin7, which anchors the DUB module to SAGA, and Nonstop, the deubiquitinase enzyme, are regulated by central circadian clock components in *Drosophila*. We observed that disrupting these subunits caused changes in circadian behavior, indicating their importance in coordinating circadian behavior. In line with humans, when polyglutamine was expressed, which expanded the Atxn7 in the clock neurons, the flies displayed arrhythmia and early death. Our findings demonstrate how the circadian rhythm is linked to the function and proportion of SAGA complex modules, leading to diverse circadian behavioral and physiological outcomes. This research marks a significant first step in identifying treatments for sleep disorders in SCA7 patients.

Eun Bee Lee

Faculty Mentor: James Benevides and M.A. Karim Rumi

Academic Unit/Department: Biology

Funding: Kansas INBRE, P20GM103418

Genome-wide DNA Methylation in Granulosa Cells is Crucial for Gonadotropin-Induced Ovarian Follicle Maturation

Gonadotropins act on ovarian follicles to carry out the two major functions- steroidogenesis and oogenesis. While follicle stimulating hormone (FSH) promotes the development of antral follicles, luteinizing hormone (LH) mediates the preovulatory oocyte maturation, induction of ovulation, and luteinization. These gonadotropin responses are accomplished by the follicular somatic cells, granulosa cells (GCs) and theca cells (TCs) that surround the oocytes, because oocytes do not express the gonadotropin receptors. It is also well-accepted that gonadotropin signaling leads to activation or inhibition of gene expression in GCs and TCs. We studied the gonadotropin-induced regulation of gene expression in GCs using experimental rat models. Four-week-old immature rats were exposed to exogenous gonadotropins, pregnant mare's serum gonadotropin (PMSG, that acts like FSH) and human chorionic gonadotropin (hCG, that acts like LH). GCs were isolated from the ovaries before gonadotropin administration, 48h after PMSG administration and 4hr after hCG administration following PMSG-priming. RNA-sequencing was performed to identify the differentially expressed genes in GCs following PMSG and/or hCG administration. Strikingly, the majority (~87%) of the differentially expressed genes (DEGs) were found to be downregulated by PMSG administration, which indicates that repression of GC-genes plays a crucial role in FSH-induced development of antral follicles. We further investigated the mechanism of FSH-induced gene-repression in GCs by methyl-sequencing of genomic DNA. Our results demonstrated that genome-wide extensive DNA methylation is an important epigenetic process underlying PMSG-induced gene repression in GCs. In contrast to PMSG induced gene repression, hCG was found to upregulate many of the DEGs. We also observed that LH administration did not impact the expression of any GC-gene, which was not modulated by PMSG administration. This observation suggests that PMSG-induced epigenetic and/or transcriptional regulation is essential for LH effects on the GC-genes. Our results establish a novel perspective on gonadotropin-induced gene regulation, which may be useful for improving the use of gonadotropins in assisted reproductive technologies.

Zaibunnisa Malik

Faculty Mentor: Timothy Cox

Academic Unit/Department: Dept. of Oral & Craniofacial Sciences and Dept. of Pediatrics

Funding: Stowers Family Foundation Endowed Chair in Dental and Mineralized Tissue Research (to TCC)

Maternal dietary vitamin A levels significantly affect the penetrance and severity of cleft lip/palate in a *Wnt9b* model.

Vitamin A (VA) and its derivatives (retinoids) play essential roles during embryogenesis and particularly facial development, with both severe VA deficiency and a vast excess of VA derivatives having been linked to the risk of any embryo being born with cleft lip/palate (CL/P). Previous studies have shown that the knockout of *Retinol binding protein 4 (Rbp4)*, which encodes the major retinol-binding protein in the serum, severely limits the mobilization of liver retinol stores. Consequently, an elevated dietary intake is required in the absence of *Rbp4* to ensure sufficient retinol supply to peripheral tissues. This dietary dependence underpins the *Rbp4* KO line as a sensitive and tunable model to study the effects of VA on development and disease. To study the interaction between maternal dietary VA and specific cleft susceptibilities, we have crossed the *Wnt9b* KO – the best-characterized single gene CL/P model - onto the *Rbp4* KO background. Pregnant dams were either maintained on a sufficient retinol diet (23IU/g) or switched, post-conception, from a sufficient diet to either a low VA (4IU/g) or high VA (40IU/g) diet. Embryos were then imaged at embryonic day 15.5 using optical projection tomography for qualitative and quantitative facial phenotyping. Our data reveal a window of optimal maternal dietary VA, where the incidence of CL/P was reduced to <20%. Notably, doubling maternal VA levels increased both CL/P severity and incidence (to ~65%), whereas vitamin A insufficiency led to a switch from bilateral clefting to midline facial clefts and repatterning of the frontonasal tissue. These findings suggest that optimization of maternal dietary VA during the early stages of pregnancy may reduce the chances of a child being born with CL/P. Ongoing work is determining whether this holds true for other CL/P risk alleles.

Kayla Nguyen

Faculty Mentors: Portia Hahn Leat and Erin Ealba Bumann

Academic Unit/Department: Oral and Craniofacial Sciences

Early Life Adversity Impacts Craniofacial Morphogenesis Near Tooth-Borne Regions in Mice

Brief 1-Sentence Abstract Summary: Early Life Adversity in mice alters craniofacial morphogenesis in tooth-borne regions.

Abstract

Background: Adverse Childhood Experiences (ACEs) include abuse, neglect, and or household dysfunction before the age of 18. Children who experienced ACEs are known have shown changes in brain, nerve, and tooth development, such as earlier molar eruption and changes in the enamel mineral density. It is unknown if craniofacial morphology is impacted by ACEs. Early Life Adversity (ELA) mouse models mimic the effects of ACEs in humans.

Objective: Our goal is to determine if there are craniofacial morphological differences in mice that experienced ELA compared to the control group.

Methods: At postnatal day 0 (P0), mice were randomized to either the control group or the ELA limited bedding group. The control group had 500cm³ corncob bedding and one nestlet while the limited bedding group had 125 cm³ bedding and no nesting material from P0 to P20. On P7 and P20, beddings were changed. At P20, mice were euthanized and scanned by micro-computed tomography to obtain a 3-dimensional rendering of the skull (n=4). Two independent, blinded observers then placed 93 craniofacial landmarks. Centroid size, true measurements, and measurements relative to centroid size were calculated and compared between ELA and control groups using unpaired, two-tailed t-tests. Interobserver reliability was used to confirm results using paired, two-tailed t-tests and coefficient of variation (CoV). Measurements where the interobserver reliability had a $p > 0.05$ and/or $CoV > 5\%$ were not used.

Results: ELA mice exhibit a significantly smaller facial angle than control mice ($p < 0.05$). Cranial base (true measurement) and palate length (true and centroid measurements) may be smaller in ELA mice, and inter-molar width (centroid measurement) may be larger in ELA mice, but sample size numbers are not sufficient for significance ($p < 0.1$).

Conclusions: Our data suggests that ELA plays a role in craniofacial morphological development in tooth-borne regions in mice. Further studies are needed to increase the numbers of mice analyzed to fully power the study and to see if this translates clinically to patients impacted by ACEs.

Acknowledgments: We would like to acknowledge Chi Viet, Coleen Doan, and Johnny Figueroa at Loma Linda University for supplying the mice, as well as the Undergraduate Research Associate Program.

Tinh Nim & Chris Viermann

Faculty Mentor: Jeffrey Price

Academic Unit/Department: Division of Biological & Biomedical Systems

Funding: SEARCH Grant

The Effects of Visual and Circadian Proteins on BDBT and of BDBT on Visual Proteins

Circadian rhythms are biological cycles that regulate an organism's mental, physical, and behavioral state throughout the day. According to the National Center for Chronic Disease Prevention and Health Promotion, 30% of Missouri residents report getting insufficient rest or sleep. Understanding the proteins that govern circadian regulation is critical for developing treatments for insomnia and various other diseases. In fruit flies, *Bride of Doubletime* (BDBT) is a crucial circadian protein that interacts with other circadian proteins to regulate circadian rhythms. Disruptions to BDBT can lead to altered circadian rhythms, which have been linked to numerous health problems in humans. BDBT undergoes dramatic changes in the eye during a light dark cycle. In this study, in the absence of light, BDBT is expressed highly and broadly in photoreceptor foci. Conversely, in the presence of light, BDBT is expressed in fingers that we show are present in one of the eight photoreceptors. We then determined how two known visual proteins, Arrestin-1 (which terminates light sensation) and NinaE (a Rhodopsin 1), interact with BDBT. We observed that Rhodopsin-1 was necessary to suppress BDBT foci and that BDBT foci were not a product of an Arrestin endocytic pathway because they were formed during the day and night in a double *ninaE*; *arr1* mutant that did not produce Arrestin-1. Finally, our initial results suggest that normal BDBT levels are needed for the daily movement of a Trp1 channel, which modulates visual sensitivity, from a part of the eye underlying the rhodopsin photoreceptors to broader localization in the photoreceptors in response to light. Our findings shed light on the complex interactions between circadian proteins in eyes and suggest that Rhodopsin1 may be an important mediator of BDBT response to light. Overall, our work highlights the mechanisms by which visual proteins interact with BDBT. These findings could have significant implications for developing new treatments and therapies for various diseases associated with disrupted circadian rhythms and eye diseases that affect visual acuity and loss of vision.

Claudia Perez

Faculty Mentor: Jessica Magana

Academic Unit/Department: Division of Biological and Biomedical Systems

Funding: SEARCH Grant

The Future of Urbanized Farming: The Relationship Between Farming Systems and Marketability of The Product

This research proposal aims to find cost-effective and alternative solutions for plant yield through hydroponic farming, arbuscular mycorrhizal fungi, and a mixture of both. Hydroponics nutrient-abundant solution can aid the arbuscular mycorrhizal fungi in nutrient absorption and water retention, producing large quantities of produce. Hydroponics has been considered an alternative method in urban areas where traditional farming is not as readily available. Hydroponics is a general term for growing plants with little or no soil. The Ebb and Flow system is an intermediate technique that places the plants in trays within net pots and growing mediums. The roots are flooded periodically with a nutrient solution and a submersible pump connected from the top tray to the reservoir below. Once the water pump stops, gravity pulls the water back into the reservoir for the nutrient solution for reuse. The timer is set to disperse the solution several times a day, depending on the size and type of plants, temperature, humidity, and growing medium used. Out of the farming methods used in the research, the question is to find which way produces the most strawberry yield in line with the USDA marketability standards. U.S. No. 1 grade requires fruits, specifically strawberries, to maintain a red or pink color on 75% of the surface, with less than 3/4 inches in diameter, and fruit without calyx (cap) will be considered defective. Purchasing specifications are as follows: no more than 10% should have defects, mold, decay, moisture, foreign matter, disease, insects, or overripen and undeveloped. The four methods will also monitor the leaf, flower, and crop growth rate. The standards and rates will exhibit the plant's marketability and overall quality product consistency. According to the *U.S. Bureau of Labor Statistics*, as of 2021, 94% of United States households containing adults and those with children have indicated low food security and growing inflation has increased market prices substantially by 8.5%. Even in urban areas with abundant food, rapid inequalities persist with dietary needs, making those in a lower socioeconomic status vulnerable to low food security. Growing inflation has increased market prices substantially by 8.5%. Purchasing quality produce has become increasingly rare and has severely impacted food accessibility in the last two years. Urban areas are more afflicted by inequalities stemming from differences between socioeconomic groups, ethnicity, and migratory status. Although it is assumed that rural areas are more likely to be afflicted with food insecurity, urban areas are more susceptible because of their dependence on a cash economy. In turn, stable employment and income are essential for greater health expectancies.

Gabrielle Pycior

Faculty Mentor: Samuel Bouyain

Academic Unit/Department: Molecular Biology and Biochemistry

Funding: SEARCH Grant

Molecular Basis of CNTN-CNTNAP Binding

Contactins (CNTNs) are a family of cell adhesion molecules within the immunoglobulin superfamily with diverse roles in the development and maintenance of the mammalian central nervous system. Previous research has demonstrated that CNTN help establish synaptic specificity in conjunction with members of other cell surface receptors: amyloid precursor proteins, L1 cell adhesion molecules and contactin associated proteins 1-5 (CNTNAP1-5). Specifically, it has been shown that CNTN2 and CNTN5 form co-receptor complexes with CNTNAP2 and CNTNAP4, respectively, during wiring of the central nervous system. Importantly, several mutations within members of the CNTN and CNTNAP families have been identified in individuals with autism spectrum disorder (ASD).

The interaction sites between CNTNs and their cognate CNTNAPs remain unclear. We aimed to define the binding interfaces between CNTNs and CNTNAPs, as a means of assessing the effect of ASD-associated mutations on the proteins' interaction. Both CNTNs and CNTNAPs are large multidomain proteins with extracellular regions greater than 1,000 amino acids, making protein expression a difficult endeavor. We began work with CNTNAP2 and CNTNAP4, the best-defined members of their family. We attempted expression of the proteins' extracellular regions in HEK293 cells and obtained sufficient levels of only CNTNAP2 for subsequent binding assays. With this construct in hand, we designed a binding assay against fragments of CNTN2 to identify the binding regions and investigate the interaction. This work sets the stage for in-depth investigation of CNTN2-CNTNAP2 interactions and, by extension, the rest of the CNTN-CNTNAP family members.

Nipam Raval

Faculty Mentors: Shrikant Anant, Prasad Dandawate, David Standing

Academic Unit/Department: School of Medicine

Inhibition of Interleukin-1 Receptor-Associated Kinase 1 (IRAK1) as Propitious Ovarian Cancer Therapy

Ovarian Cancer (OvCa) is an aggressive uncontrolled replication of cells stemming from the ovaries that is frequently treated with surgery and chemotherapy despite a preponderance of late stage diagnoses. Quiescence cancer stem cells (CSCs) implicate the effectiveness of current treatments due to unique capacities to differentiate and its high expression of ATP-binding Cassette (ABC) transporters. Although the toll-like receptor (TLR) signaling pathway is oftentimes activated in immune cells with antigen presenting capabilities, tumor cells are also aberrantly able to manipulate TLR signaling pathways with the critical signaling module interleukin receptor associated kinase 1 (IRAK1), which was found to be highly upregulated in OvCa. In-silico molecular docking based screening was used to find molecular inhibitors of IRAK1 and compounds were evaluated for binding within the c-terminal kinase domain. Mebendazole suggested potent interaction with the kinase domain of IRAK1 with a BE of -10.3 kCal/mol and protected IRAK1 from thermal denaturation. Hexosaminidase proliferation assays were performed to gauge the efficacy of mebendazole on inhibiting cancer cell growth. Cisplatin sensitive OvCar3, A1847, A2780 OvCa and cisplatin resistant C30 OvCa cell lines were treated with increasing doses of mebendazole, suggesting the potent anticancer activity of mebendazole through the inhibition of IRAK1.

Ovarian Cancer results in a malignant transformation of the epithelium and is commonly diagnosed in later stages—III and IV—as a result of lack of effective screening methods. Primary treatments include surgery and several rounds of chemotherapy without radiation, and up to 70% of patients are prone to a relapse that can additionally develop to be chemoresistant due to cancer stem cells (CSCs), which are specialized cells with the capacity to differentiate and self renew. Because of ATP-binding Cassette (ABC) transporters, CSCs can subsequently implicate the effectiveness of chemotherapy. Toll-like receptors (TLR) are phospholipid membrane proteins that sensor invading pathogens and stimulate an immune response by binding to various proteins downstream via the Toll-interleukin 1 receptor (TIR). Tumor cells are able to manipulate TLR signaling pathways to promote further development by NF-kB activation, which initiates inflammation. Interleukin receptor associated kinase 1 (IRAK1) is an imperative signaling module in the pathways of TLRs and expressed in the presence of chemoresistant ovarian cancer because of its ability to activate several downstream pathways corresponding to further tumor progression.

Jodie Schmitt

Faculty Mentor: Hillary McGraw

Academic Unit/Department: Division of Biological and Biomedical Systems

Funding: Grant NIGMS R16GM146690

Investigating the Role of EpCAM in the Development and Regeneration of Mechanosensory Hair Cells

Jodie Schmitt, Ben Leifer, Hillary McGraw

Abstract

Hair cells (HC) are found in the cochlear organ of the inner ear and mediate the sensations of hearing and balance. Damage to human HCs results in varying degrees of hearing loss, which cannot be regained. We have been investigating hair cell (HC) regeneration of zebrafish neuromasts located in their lateral lines (LLs) because they are able to regenerate following damage. The adhesion protein, epithelial cell adhesion molecule (EpCAM) is expressed in LL cells, though its function in this organ is not known. Our current work seeks to determine if EpCAM is important for HC development and regeneration. We have been counting HCs marked by anti-Otoferlin antibodies, as well as all of the cell nuclei marked by DAPI, in the LLs of both WT and mutant null EpCAM zebrafish larvae. We have counts from zebrafish that are 5 days post fertilization (dpf), that showed no difference in the number of HCs, but there was a statistically significant decrease in the number of support cells of our mutant ZF. We then wanted to examine regeneration with the EpCAM mutants, as they have fewer initial support cells before beginning their regeneration. For this we took zebrafish (ZF) that were 5 dpf and exposed them to neomycin, an antibiotic known for being able to create simultaneous ablations of mature HCs in the ZF's LL. After 3 days of regeneration, at 8 dpf, we imaged the fish with a confocal microscope and did post regeneration cell counts. These experiments were done to help indicate whether EpCAM is an important factor in LLs. If we are able to understand the pathways and other essentials of regeneration that is used in zebrafish, it opens many new possibilities in research, especially in auditory therapy.

Lindsay Todd

Faculty Mentor: Ryan Mohan

Academic Unit/Department: Division of Biological & Biomedical Systems

Funding: NIH NINDS Grants

A New Regulator of Ataxin-7 Cleavage in Spinocerebellar ataxia type 7

Spinocerebellar ataxia type 7 (SCA7) is a genetic neurodegenerative disorder that causes loss of motor function and blindness. It is caused by polyglutamine expansion in the ATXN7 gene that codes for Ataxin-7. Ataxin-7 (ATXN7) anchors the deubiquitinase module to the SAGA chromatin modifying complex, which is a critical regulator of gene expression. However, pathways regulating the deubiquitinase module entry and exit from SAGA remain mysterious. In humans, Caspase-7 cleaves Ataxin-7, and it is believed polyglutamine expanded Ataxin-7 is more prone to being cleaved. Preventing caspase-mediated cleavage of Ataxin-7 can reduce cytotoxicity. Therefore, our working model is that the release of ATXN7 and the DUB module (DUBm) causes SCA7 symptoms by allowing the DUB module to target non-histone substrates. We sought to identify a protein responsible for countering caspase-mediated cleavage of ATXN7 and have developed an unbiased method to discover novel interactors Ataxin-7. Through this we identified an interactor that possibly prevents caspase-mediated cleavage of Ataxin-7. In our follow-up studies we tested the cleavage pattern of ATXN7 in the presence and absence of this interactor and currently testing how this factor can modulate SCA7.

Benjamin Vandenburg and Michelle Tran

Faculty Mentor: Saul Honigberg

Academic Unit/Department: Division of Biological and Biomedical Systems

Funding: SEARCH & SUROP Grants

The Effect of the Environment on the Biological Response of Yeast

In the study of eukaryotic organisms, an important area of focus is how environment affects the biological response of an organism. In particular, the Honigberg lab proposed that communities of yeast respond to their environment by allocating different proportions of cells in a layer of “feeder-cells” at the bottom of the colony and a layer of sporulating cells at the top of the colony, with the feeder cells providing nutrients necessary for the cells in the overlying layer to sporulate efficiently. To investigate this idea, we have chosen the model genetic organism *Saccharomyces cerevisiae* (Baker’s yeast) and its close relative *Saccharomyces paradoxus*. A total of 21 different strains of either *S. cerevisiae* or *S. paradoxus* that had been collected from various places around the world were tested. Our initial aim was to examine how communities of each strain partitioned between sporulating cells and feeder cells when grown on various carbon sources. After a preliminary test of the sporulation of these 21 strains on a range of carbon sources, we focused on 4 strains from a clade of yeast from a North American forest and 4 strains from China and on two growth media. Based on previous whole genome sequences, the North American clade contains less genetic diversity than the Chinese clade. Only a single N. American strain and a single Chinese strain sporulated poorly under at least one of the two conditions tested, but interestingly, the poor-sporulating N. American strain yielded much higher levels of feeder cells than the poor-sporulating Chinese strain. This suggests the possibility that less diverse populations of yeast depend more on partitioning. We will test this possibility by measuring partitioning for these same 8 strains under more conditions and also possibly testing more strains from these same two clades.

Jocelyn Vang

Faculty Mentors: Mark L. Johnson and Nuria Lara-Castillo

Academic Unit/Department: Oral and Craniofacial Sciences

Funding: NIH NIA 2P01 AG039355 and the UMKC Office of Undergraduate Research

The Role of Estrogen on Bone and Muscle Cross Talk

Background: Estrogen is an important hormone involved in bone and muscle development. Estrogen is known to signal mainly through two receptors—Estrogen Receptor Alpha (ER α) and Estrogen Receptor Beta (ER β). In this study we focused on estrogen action on bone and muscle mediated by signaling through ER α . We have hypothesized that bone and muscle biochemically crosstalk with each other through factors that are regulated by estrogen mediated ER α signaling.

Methods: To investigate the role of the estrogen receptors in bone-muscle crosstalk we deleted the ER α gene in skeletal muscle by crossing either TOPGAL-ER $\alpha^{f/f}$ with the tamoxifen inducible HSA-MCM-Cre mouse to generate TOPGAL-ER $\alpha^{-/-sm}$ mice. Cre⁻ littermates were used as controls (ctrl). 6-month-old male and female mice were injected with tamoxifen daily for one week to initiate deletion of the ER α gene and mice were sacrificed at 3 weeks after the last injection. Tibialis muscle, kidney, ovaries, brain, and heart tissue were removed and fixed in 4% PFA for 24 hours and processed for paraffin embedding and 7 μ m thick sections were cut and placed on glass microscope slides. In some cases, tissues were frozen in OTC and sectioned. Immunohistochemical staining was performed using an antibody specific to mouse ER α (Invitrogen). Sections were incubated with the primary antibody for 12 hours at 4°C and after 3 PBS washes, the sections were incubated with a horse radish peroxidase conjugated secondary antibody for 2 hours at room temperature. Sections were then stained with DAB for 8 minutes and counterstained with methyl green. Images were obtained using a Keyence microscope at 10X or 20X. A non-immune primary antibody was used as a control.

Results: Our initial studies focused on determining the optimal antibody concentrations using the ovary sections as the positive control. A 1:200 dilution of primary antibody was selected. The ER α staining pattern in skeletal muscle showed a high degree of variation in staining intensity from one muscle fiber bundle to the next with some fiber bundles showing a high degree of ER α staining and others showing very little staining. Heart tissue showed a more uniform pattern of ER distribution. Brain displayed the occasional neuron staining positive. Kidney showed staining mainly in glomeruli. The TOPGAL-ER $\alpha^{-/-sm}$ skeletal muscle tissue showed a significant reduction in the level of staining confirming deletion of the receptor.

Conclusions and Future Studies: We have developed a method for detecting ER α protein in mouse tissues and have shown targeted deletion of ER α in skeletal muscle of our knockout mouse model. Interestingly the distribution of ER α in skeletal varied considerably, suggesting a different level of abundance of the receptor in different muscle fiber types. Studies are currently underway to determine which muscle fiber types express the different levels of ER α and how this relates to muscle function.

Toan Vo

Faculty Mentor: Michelle Paquette and Nathan A. Oyler

Academic Unit/Department: School of Science and Engineering

Funding: SEARCH Grant

Mapping the underlying process–structure–property relations of amorphous hydrogenated silicon carbide (a-SiC:H) fabricated from plasma–enhanced chemical vapor deposition

The purpose of the research was determining the relationship between the plasma–enhanced chemical vapor deposition (PECVD) parameters, which were temperature, pressure, and plasma power, and the structure and properties of amorphous hydrogenated silicon carbide (a-SiC:H) using novel chemicals precursors, 1,4-bis(dimethylvinylsilyl)benzene (BDMVSB). Initially, by changing different parameters in plasma-enhanced chemical vapor deposition method, the material will shift to either silicon-rich regime or carbon-rich regime, which contained a variety of properties. With these exclusive properties, a-SiC:H is widely applied in numerous industries: it could be used as dielectric layers in integrated circuits, optical waveguides, and chemical-resistant coatings. The project was conducted to study the fabrication of a-SiC-H materials using a novel and complex organosilicon precursor, BDMVSB, in changing the process–property of PECVD, which were temperature, pressure, and plasma power. Based on the collected data on the composition of the thin films, the percentages of oxygen in the samples with high plasma power were considerably higher than other growth conditions because of the radicalization and/or ionization of the precursors. Additionally, an increased in carbon was reported when the pressure was set at high level, and the other variables was set at a low level. The calculated value for band gaps fell between the range of 1.8 eV to 2.8 eV, which vaguely decreased the electronic properties of semiconductors due to the high amount of carbon in the precursor. Lastly, even though the statical analysis of the interaction between the data was insignificant, the measurements of Fourier Transform Infrared (FTIR) spectroscopy showed an interesting pattern on the fragmentation and/or polymerization of BDMVSB.

Nicholas Gaitan and Adam Waldren

Faculty Mentor: Jeffrey L. Price and Jin-Yuan Fan

Academic Unit/Department: Division of Biological and Biomedical Systems

Funding: SEARCH Grant

ANALYSIS OF CIRCADIAN PROTEIN FUNCTION IN THE SLEEP HOMEOSTASIS RESPONSE OF FRUIT FLIES

Previous genetic research into the sleep/wake cycles in *Drosophila melanogaster* (the fruit fly) has elucidated a circadian oscillation mechanism in which the transcriptional regulator PERIOD (PER) is degraded in response to phosphorylation via the protein kinase DOUBLETIME (DBT) during the day. Additionally, the TIMELESS (TIM) protein is also degraded during the day via the light-dependent CRYPTOCHROME (CRY) photoreceptor. At night, CRY activity is inhibited due to the absence of light and TIM accumulates, inhibits DBT-dependent PER degradation, and binds with PER. The TIM/PER heterodimer is then able to translocate to the nucleus and inhibit the transcription of PER in a negative feedback loop. While extensive research exists concerning this mechanism, it is believed that the sleep/wake cycle is also governed by a homeostatic process that interacts with circadian rhythmicity, and it is this homeostatic mechanism that is the subject of our lab's current research. It is believed that the need for homeostatic regulation during sleep/wake oscillations is due to increased synaptic activity and metabolism during periods of wakefulness that need to be downregulated by sleep. The homeostatic drive to sleep must overcome the circadian wake drive of the biological clock in diurnal organisms—that sleep at night—to be released. It is our hypothesis that these homeostatic and circadian mechanisms involve similar protein components, as our lab's data has shown that RNAi knock-down of DBT (a circadian protein) produces elevated sleep during the day but affects parts of the fly brain that are not associated with the circadian pathway. Since DBT interacts with PER, levels of PER protein were measured through Western Blot analysis during sleep deprivation, and an antigen that cross-reacts with PER antibodies—but lower in molecular weight than full-length PER—was detected in wild-type flies and, surprisingly, *per^O* mutant flies as well. This low molecular weight antigen could be the product of alternative splicing of the *per* gene, which contains a stop codon in the 4th exon in *per^O* mutant flies. In addition, our lab detected a shorter mRNA sequence from this region by RT-PCR in both wild-type and *per^O* mutants. If part of the 4th exon and the stop codon are removed by alternative splicing, it would account for the shorter mRNA sequence and low molecular weight antigen detected by our lab. We are currently cloning the lower molecular weight *per* mRNA to determine its structure and undertaking immunofluorescent detection of PER antigen in brains from sleep deprived flies to determine where it is expressed. Long term goals will involve overexpression of this altered PER to determine its effects on sleep and sleep deprivation outcomes.

COMPUTING & ENGINEERING

Grace Dang

Faculty Mentor: Zahra Niroobakhsh

Academic Unit/Department: Division of Energy, Matter, and Systems

Funding: SEARCH Grant

Reconfigurable Biomaterials Containing Magnetic Nanoparticles

Reconfigurable materials with tunable properties have shown great potential for various applications such as microrobots and magnetic technological advances. These biomaterials have become an important tool for biomedical research and clinical applications, providing new opportunities for tissue engineering, drug delivery, and diagnostic imaging. However, traditional biomaterials have limited functionality and are not responsive to external stimuli. One approach to creating such materials is through the use of nanoparticles, including magnetic nanoparticles, which are known for their structural diversity. Magnetic nanoparticles belong to a group of nanomaterials that exhibit unique magnetic properties and find numerous applications in diverse fields. Thus, magnetic nanoparticles can be used to create reconfigurable solutions as well as to enhance the properties of biomaterials, including their mechanical properties, drug delivery, and imaging capabilities. This project aims to develop reconfigurable biomaterials containing magnetic nanoparticles and to study their ability to reshape in a magnetic field. The performance and properties of the reconfigurable biomaterials containing magnetic nanoparticles will be incorporated in different surfactants followed by a liquid-in-liquid 3D printing approach to study the structures.

To achieve this goal, we developed a chemical procedure to coat magnetic nanoparticles to avoid aggregation. We used a fatty acid soap solution composed of stearic acid and choline hydroxide with a molar ratio of 2 between the two components. The concentration of iron nanoparticles was 0.1 wt.% in the solution. For each fatty acid concentration, we prepared 10 mL of solution containing 0.1% of Fe₂O₃ nanoparticles and a fixed concentration of stearic acid choline salts. The solution was equilibrated at 80°C for 20 min and sonicated for 20 min before being allowed to equilibrate for an additional 30 min. The coated nanoparticles were added to printing ink solutions and a liquid-in-liquid 3D printing technique was used to create the constructs. To achieve the printing phase, coated nanoparticles were introduced into a mixture of different surfactants including SDS, CTAB, and CPCl, in water. The concentration of these surfactants was determined based on the printing outcomes observed in the oil phase. Printing parameters like nozzle size and speed were determined by analyzing the printed structures, and optimal concentrations were established accordingly. The mechanical properties were tested for all these solutions and data was compared. For printing of structures, a CELLINK BIOX6 bioprinter was used with a mechanical syringe as the extrusion module. Printing parameters such as nozzle size, type, and printing speed were optimized for better printing quality. The magnetic properties of each sample were visualized under the microscope, and videos were recorded using an optical microscope in the lab to monitor their actuations under various magnetic fields.

In conclusion, by exploring the various routes for constructing the reconfigurable materials, we analyzed the critical role of liquid fatty acid in filament assembly and gained an understanding of the characterization of the nanoparticle magnetic properties. We successfully developed reconfigurable biomaterials containing magnetic nanoparticles using a liquid-in-liquid 3D printing technique. We demonstrated the ability of these materials to reshape in a magnetic field, making them suitable for various applications in biomedicine, micro-robotics, and other technological advancements. Our findings provide insight into the importance of fatty acid coating and magnetic field setup in creating such materials and pave the way for further research in this exciting field. However, further work is still needed to explore the full potential of these materials to optimize their synthesis and characterization.

Anh Doan

Faculty Mentor: Zahra Niroobakhsh

Academic Unit/Department: Mechanical Engineering

Funding:

Gel Nanostructures via Lipid Self-Organization

Anh Doan, Hanieh Sadat Ghazali- PhD student, Prof. Zahra Niroobakhsh

Engineered lipid structures, inspired by the membrane of every living cell, have received a lot of attention in biomedical science. The reason behind can be the merits brought by lipid structures to overcome challenges, namely biocompatibility and biodegradability, in these applications. Lipids are the primary components of cell membranes. That makes it crucial to study how to fabricate lipid nanostructures to mimic biological systems and use them in biomedical and pharmaceutical applications.

Herein, the goal of this project is to study a lipid-contained gel nanostructure and investigate the lipid self-organization in equilibrium and nonequilibrium environment in order to form higher-order amphiphile self-assemblies. The results demonstrated that a major interfacial instability occurs when a dry mass of amphiphiles encounters water. It leads to the formation of myelin structures, a collection of finger-like tubular protrusions that are a unique structural class of lyotropic smectic liquid crystals (Figure 1). They are arranged into distinct tubules that have a central (100 nm) aqueous core and thousands of cylindrically stacked, alternately lipid bilayer and aqueous channel lamellae.

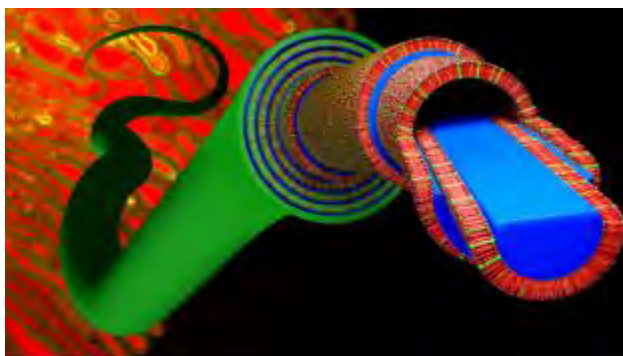


Figure 1: A Myelin Figure (Langmuir 2022, 38, 1045–1056).

Adeesha Naveed

Faculty Mentor: ZhiQiang Chen

Academic Unit/Department: Civil Engineering

Funding:

Digital Technologies for Engineering Inspection Automation

With the aid of digital visual components, audio, or other sensory cues and technology, Augmented Reality (AR) creates a more enriched version of the real world. Businesses that specialize in mobile computing, especially commercial apps, are increasingly embracing this trend. Visual analytics combined with an immersive physical-virtual hybrid environment can make AR the ideal solution for reducing the risk of urban flooding. By still incorporating human skill and judgment at every stage, AR offers all the advantages of automated inspection, including time savings, accuracy improvement, and nondestructive fault discovery. People in AR should consider the potential of urban flooding when planning their projects. The difficulty arises when we need to collect a significant amount of 3D point cloud data for Kansas City (KC). AR technology enables humans to see in advance what a flood would look like. The answer would be to use Microsoft Azure Remote Rendering (ARR), and in this project, I intend to use ARR in HoloLens 2 to construct a KC flood model.

Payton Phipps

Faculty Mentor: Megan Hart

Academic Unit/Department: Civil Engineering

Funding:

Degradation of PVC under UV Light and Fertilizers for use in Urban Agriculture

Abstract

Polyvinyl chloride (PVC) is a plastic-based material that is notable for its high durability. It is commonly used in hydroponic and agricultural applications, such as irrigation systems. Despite PVC's resilience, plastic-based byproducts and contaminants may leach out of the PVC when exposed to ultraviolet (UV) light and fertilizers that are used to promote plant growth and health. These materials and contaminants may hinder or impair the growth and quality of the plants growing in the exposed water. As of right now, there are no existing limitations on the concentrations of plastic-based contaminants leaching from irrigation system piping. This has caused major concern that build-up may occur and harm the environment or people since vinyl chloride, a hazardous substance, is one of the building blocks of PVC. This concern is also greatest in urban agriculture and hydroponics where PVC piping is exposed. This study explored the accelerated leaching of plastic-based byproducts as a result of UV and acidic fertilizer exposure. To evaluate the accelerated leaching of PVC piping under UV exposure and in the presence of an acidic fertilizer, an experiment was designed to reflect conditions found in standard hydroponic systems and in a greenhouse. Experimental trials were developed for intact PVC, as well as shredded PVC to reflect extreme conditions that may result due to damaged piping. The findings from each experimental trial suggest that PVC breaks down and leaches vinyl chloride at a much higher concentration when exposed to UV light and an acidic fertilizer solution compared to standard conditions.

keywords: polyvinyl chloride, urban agriculture, ultraviolet light, fertilizer, leaching

Adam Pribyl

Faculty Mentor: Travis Fields

Academic Unit/Department: School of Science & Engineering

Funding: SEARCH Grant

Winging It: The Ultimate Showdown Between Three Cutting-Edge Prototyping Techniques

Winging It: The Ultimate Showdown Between Three Cutting-Edge Prototyping Techniques

Adam Pribyl
Travis Fields
SSE

Objective

The objective of the scientific research poster on rapid prototyping of a drone is to present and compare three different methods of wing production - foam cutting, layup processes, and 3D printing - and to evaluate their performance in terms of weight and strength. The poster aims to provide insights into the advantages and disadvantages of each method and to help inform decisions on the most appropriate method for developing a drone.


Design

Prior to testing any parts, a 3D model of the system would need to be created. Using a CAD program called Solidworks, the fuselage, wings, propellers, alternator, and any other necessary parts were sketched up and modeled in 3D. This step ensures that prior to testing, each method would have the same baseline.

Method 1: Foam Cutting


Method 1 utilized a wire cutter on foam to create lightweight and easily repeatable airfoils. Testing the density of the variety of foams, the large cell foam was selected. In addition to the least density, the foam also appeared to cut more smoothly than the other types of foam.

Material	Density (kg/m ³)
Aluminum	2700
PLA 3D	1240
Carbon Fiber	1600
Carbon	1800




Method 2: Layup Process

Method 2 relied on strengthening existing designs to create smoother and stronger parts. The process involved a combination of materials including epoxy, plastic sheets, peel ply sheets, glass beads, and cotton. Prior to the bagging process, any holes on the foam were filled with a glass bead epoxy mixture. Next, carbon fiber was attached to the foam using epoxy. The process continued by layering the carbon fiber with peel ply and a cotton sheet. This assembly was then put into a handmade plastic sheet bag and vacuum-sealed for 48 hours. The result of this layup process was a strong, lightweight, and aerodynamic wing.



Method 3: 3D Print


Method 3 utilized the design process earlier and modified it so that it would be easily 3D printable. This was done by modifying the initial internal part of the print so it could be printed without needing any additional supports.



Using a printer, such as an ender 3, a plastic called PLA was used to print these. It should be noted that PLA has a density of 1240 kg/m³, making this method much denser than previous methods.


Results

Method 1 proved to be difficult to create. The wire cutter required two people to work together in perfect sync and often lead to unsmooth surfaces and areas that would need to be patched up. In addition to this, the foam seemed to crush under any pressure exerted on it.



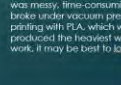
Method 2: Layup Process

Method 2: This method was the most difficult method by far. The layup process proved to be extremely messy and time consuming. Although the layup process strengthens the existing material tenfold, most foam pieces would break under vacuum pressure producing deformed pieces. In addition, cutting a composite made out of epoxy and carbon fiber is extremely difficult, only adding to the time it takes to post-process.



Method 3: 3D Print

Method 3: This process seemed to be the easiest, as a simple modification of the CAD drawing was all that was needed. It required little human interaction and one could do other things while the part was being printed. However, this piece was by far the heaviest though, having a weight of 413g.



Conclusions

In conclusion, this scientific research poster evaluated and compared three different methods of wing production - foam cutting, layup processes, and 3D printing - for developing a drone. The methods were evaluated in terms of weight and strength, and the poster provided insights into the advantages and disadvantages of each method. Method 1 utilized a wire cutter on foam to create lightweight and easily repeatable airfoils, but proved to be difficult to create and the foam was easily crushed. Method 2 relied on a layup process involving a combination of materials to create strong, lightweight, and aerodynamic wings, but was messy, time-consuming, and most foam pieces broke under vacuum pressure. Method 3 used 3D printing with PLA, which was the easiest method but produced the heaviest wings. Overall, in future work, it may be best to look into making processes.

PHYSICAL & NATURAL SCIENCES

Cooper Buzbee

Faculty Mentor: Zahra Niroobakhsh

Academic Unit/Department: Division of Energy, Matter, and Systems

Funding:

Liquid-in-Liquid 3D Printing of Responsive Soft Materials

Abstract

Responsive soft materials are gels, emulsions, or colloids that can be manipulated using an external stimulus such as light, pH, temperature, and electric or magnetic fields. The tunable characteristics and, in most cases, aqueous nature of these materials make them ideal for biomedical applications such as drug delivery, soft robotics, and wearable devices. This research covers the fabrication of magnetically responsive gels via liquid-in-liquid 3D printing (LL3DP) approach. In this LL3DP approach, an aqueous surfactant solution is extruded into a bath of polar oil according to a predetermined shape. When the surfactant and oil molecules interact, they form interfacial nanostructures that lock in the shape of the extruded aqueous solution. In this study, fatty acid-coated iron oxide nanoparticles are added into the ink solution along with surfactant, and an external electromagnetic field is applied to manipulate the nanoparticles orientation embedded inside the prints.

Adriana Feener-Rivera

Faculty Mentor: Paul Rulis

Academic Unit/Department: Physics

Funding: Internal Computational Physics Group Research Support

Core Level Spectroscopy Calculations of Shallow Core Orbitals in High Z Elements

X-ray absorption near edge structure (XANES) and the electron energy loss near edge structure (ELNES) spectroscopies are powerful tools to perform element-specific analysis of the local atomic and electronic environments in a material. The spectral features encode rich—but difficult to interpret—information about the electronic states of the targeted elements. Hence, the use of theoretical first-principles based methods to compute the spectra in different model conditions is invaluable for interpretation of experimental data.

The Orthogonalized Linear Combination of Atomic Orbitals (OLCAO) method [1] has a long history of being used to compute the XANES/ELNES spectra of materials [1]. For XANES/ELNES calculations using OLCAO, the primary focus has been on elements from the first few rows of the periodic table of the elements. There are multiple reasons for this limitation. (1) The OLCAO method does not explicitly include the effect of spin-orbit coupling, which becomes significant for elements with a high atomic number (high Z); (2) calculations depend on tracking the precise order of core electron orbital energy levels so as to consistently sustain an electron hole in a given targeted orbital; and (3) the program has a hard-coded limit on the number of core orbitals that does not accommodate high Z elements.

Presently, there is interest in computing the XANES/ELNES spectra of Pb 5d orbitals from methylammonium lead bromide (MAPbBr₃) [2], a perovskite material with potential solar photovoltaic applications [3]. However, the current OLCAO package can only target the following orbitals: 1s, 2s, 2p, 3s, 3p, 4s, 3d, 4p, 5s, 4d, 5p, 6s, 4f.

To compute Pb 5d spectra it is necessary to add 5d to the list. After studying the OLCAO program I have now started to develop modifications to the OLCAO program to add 5d to the list. At the same time, I am determining what changes will be needed to deal with problem #2 described above so that the OLCAO program XANES/ELNES calculation subroutines will have greater flexibility.

References:

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Liz Langford

Faculty Mentor: Caroline Davies

Academic Unit/Department: Earth & Environmental Sciences

Funding: SEARCH Grant, Newcomb Grant

Assessing the Johnson-Su Composting Bioreactor for Midwest Urban Soil Regeneration

The Johnson-Su Composting Bioreactor is a recently developed aerobic composting method which produces a clay-like compost with a highly diverse microbiome, specifically higher in fungus than bacteria. Unlike other methods, the Johnson-Su does not require turning, uses only leaf matter, does not smell, and is proposed to be multiscale. The density of fungal dominant compost (FDC) is the focus of this method. The FDC end product is an inoculant which in small quantities is ideal for improving plant health, seed germination, soil water filtration and retention, and crop yield (Johnson, DeSimio, 2017). Johnson and Su developed this approach for large-scale agriculture in the American southwest. The objective for this research is assessing the Johnson-Su Bioreactor composting method for production of FDC in a Midwest setting for potential to regenerate urban soils. In partnership with the Kansas City Farm School, I will use the microBIOMETER® test kit for field testing of fungal/bacteria ratios at different depths of the bioreactor. I will also collect samples for DNA sequencing as a more rigorous test of the fungal/bacteria ratio. Using soil moisture and temperature sensors placed in the bioreactor, statistical analyses will be performed on the data. Standard DNA extraction protocols for fungal and bacterial DNA extraction following Yeates et al. (1998) will be implemented with compost samples. Resulting samples will be processed and species will be identified and separated. Microbial diversity in soil is directly related to the functionality of an ecosystem. Finding this ratio will be pertinent to understanding how ecosystems respond to the changing climate. I believe that finding an appropriate fungal/bacterial ratio that can potentially mediate poor urban soil is of utmost importance for the physical well-being of upcoming generations.

Luke Romang

Faculty Mentor: Tina Niemi

Academic Unit/Department: Natural and Built Environment

Funding: SEARCH Grant

DEPOSITIONAL SETTING, PALEOCURRENT, PROVENANCE, AND TECTONIC IMPLICATIONS OF THE CARMEN FORMATION ON SAN MARCOS ISLAND, BAJA CALIFORNIA SUR, MEXICO

Exposures of the Carmen Fm were studied on San Marcos Island (SMI) offshore of NE Baja California Sur to determine the paleocurrent direction of Pliocene watersheds and the provenance of rocks within that watershed. These studies helped us understand the tectonic history of San Marcos Island within the Gulf of California oblique rift system. The Carmen Fm on SMI is Early to Middle Pliocene in age based on a new Ar/Ar date from an interbedded lava (Sommer et al., 2022), and correlation to the Tirabuzon Fm (Carreno, 1981) and Infierno Fm (Wilson and Rocha, 1955) that overlie the Boleo Fm in the Santa Rosalia Basin (SRB). Four stratigraphic sections (Town, Harbor, South Beach, Cerro Reyes) lie above an angular unconformity with underlying San Marcos Fm that likely correlates with the Upper Miocene Boleo Fm in the SRB based on interbedded gypsum deposits (Anderson, 1950). Gilbert-style, low-angle foreset beds with rounded and imbricated pebbles and cobbles are interbedded with locally pebbly and fossiliferous marine sandstones. Petrographic, macrofossil, and microfossil analyses reveal a variety of marine organisms, including gastropods and barnacles, that suggest a rocky intertidal environment; bivalves and benthic foraminifera found in sandier facies imply a more open shelf environment. Paleocurrent data from imbricated clasts, clinoform dip direction, and ripple cross-lamination suggest a general southeastern paleocurrent direction, except for the south westernmost outcrops on the island, which display a southwestern paleocurrent direction. This is most likely due to rotation during the tectonic forces responsible for the dextral slip of San Marcos Island. Conglomerate clast composition data from clast counts of critical units ranges from 9% granite in the southeastern exposures to 45% in the southwestern exposures. This variation in granodiorite clast composition is most likely due to local fluctuations of fluvial processes. Petrographic analyses reveal an abundance of angular to subrounded lithic clasts supported by a fine-grained carbonate matrix. This textural immaturity suggests derivation from proximal sediment sources composed of volcanic and granitic basement rocks. An upsection increase in the abundance of granitic clasts also suggests that SMI was located near a granitic source during Pliocene time; the nearest such exposure is located ~40 km to the NW on the Baja Peninsula near La Reforma Caldera. Paleocurrent data and granitic clasts abundance in the Pliocene Carmen Fm support syntectonic deposition within a transtensional pull-apart basin and up to ~40 km of post-Miocene dextral slip between SMI and Baja California after the onset of seafloor spreading in the Gulf of California rift.

Mya Thomas

Faculty Mentor: Alison Graettinger

Academic Unit/Department: Earth and Environment Sciences

Funding: SEARCH Grant

Constructing and testing a technology to remotely deploy scale objects for cave exploration and digital modeling

To collect reliable data for research pursuits, the necessary methods and techniques must be executed accurately, precisely, and safely. My project explores techniques to remotely deploy scale objects into lava tubes to limit direct exposure to dangerous situations. Such lava tubes and similar cave environments cannot be measured via GPS software as they are underground. So, the method I developed is an inexpensive alternative to imaging using an unmanned aerial vehicle. My method involves reaching aids to plant scale objects into the cave environment and a cell phone-based system to collect images at various angles. Utilizing common tools instead of laser techniques allows for this type of research to be easily executed regardless of one's level of expertise. After images of the lava tube are taken, I digitally modeled the environment using photogrammetry techniques in AgiSoft Metashape. Having scale objects in the images allows for definite points to be located and plotted in the software. This means that accurate measurements can then be taken from the digital model because the size and location of the scale object is known. Having digital three-dimensional models of dangerous environments, like lava tubes, allows for them to be studied safely. My method has very practical applications as it ensures data collection will be executed with ease regardless of skill level. Beyond that, studying cave environments is important to planetary science since they may be considerate living quarters for astronauts on extraterrestrial lands.

Annika Tsay

Faculty Mentor: Zhonghua Peng

Academic Unit/Department:

Funding:

Healthy Shake or Toxic Tonic: An Examination of Iron and Copper Levels in Plant-based Protein Powders

Muscle-building supplements and high-protein shakes are popular dietary supplements that are widely available and accessible without a prescription. The safety and quality of these protein powders are therefore of great importance to public health. In fact, studies have found toxins such as heavy metals in protein powders, especially plant-based ones. Even for essential heavy metals, such as iron and copper, consuming excessive amounts can lead to serious health problems. It is therefore important to know the iron and copper levels in common protein powder products. The current study analyzed the copper and iron content of five popularly consumed plant-based protein powders: Quest, Orgain, Vega, Nature's Best, and Garden of Life. More specifically, Atomic Absorption Spectroscopy (AAS) was used to measure Cu and Fe concentrations. The results revealed that there are significant inconsistencies between the measured contents of copper and iron and those shown on nutritional labels. Inconsistencies between the labeled value and experimental value ranged from 26% to 83% with an average percentage error of 52%. The difference in absolute amount between the labeled value and experimental value is as high as 3.56 mg/serving (Orgain) for Fe, amounting to nearly 50% of the recommended daily dietary allowance. Measurable amounts of Cu were found in all 5 plant-based protein powders, with Garden of Life having the highest amount of 0.51 mg/serving which is more than 50% of the recommended daily copper dietary allowance. With around $\frac{1}{3}$ of protein powder consumers doubling their serving sizes per day, many consumers likely exceeded the Fe and Cu intake amounts. Better regulation and quality control are needed to ensure safety. Individuals should consult with a healthcare professional to minimize the risks of toxicity.

Jay Vanderslice

Faculty Mentor: Paul Rulis

Academic Unit/Department: Physics & Astronomy

Funding: SEARCH Grant

Creating Continuous Universal Paths and Variable Band Structures

The development of advanced structural and functional materials plays a critical role in dramatic technological advancement, but because the key properties of the material often arise from the nuanced behavior of the electrons, it is very desirable to have a detailed understanding of the electronic structure. Certainly, when a material experiences mechanical deformation, the electronic structure will change, but the current conventional methods of visualizing the electronic structure do not lend themselves well to tracking that change in a clear and transparent way.

In this SEARCH project we developed a novel method of visualizing the changes in electronic structure that are experienced by a simple crystal when being mechanically deformed (e.g., by uniaxial tension or compression). Presently, the electronic states of a material are often visualized by using a symmetric band structure diagram as shown in Figure 1. The vertical axis in Figure 1 represents the energy of a given electronic state and the horizontal axis tracks a path of specific points (called k-points) within the reciprocal space of the lattice.

Given a set of high symmetry k-points (face-centers, edge-midpoints, and vertices) in the universally applicable triclinic lattice (see Figure 2), it is not clear exactly *which* subset to use for a given calculation of higher symmetry lattices and their deformations (e.g., going from cubic to tetragonal). The ambiguity is due to the redundancy of the triclinic k-points when applied to higher symmetry lattice types. Ideally, a set of analytic equations for all points of each lattice type could be produced. Our current results show that it is possible, in most cases, to analytically derive the points within a unit cell through simple calculations such as determining tri-planar intersections and reflection and inversion of the original points across various planes. While we found that the intended methodology was successful for most types of crystalline cells, it was not easily applicable to the triclinic system. Therefore, we decided to pursue a numerical approach.

Once given the numerically determined locations of the points we will be able to determine which path or combination of paths can be created to allow for universal flow as unit cells are taken through various deformations.

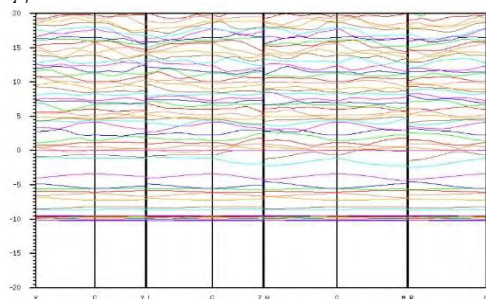


Figure 1: Band Structure for Triclinic $\text{LiCd}(\text{BO}_3)$

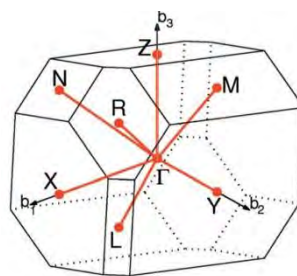


Figure2: Traditional points for a triclinic reciprocal space cell. (Setyawan & Curtarolo, 2010)

EUREKA! COURSES

BIOLOGY H206

Genetics

Amelia Beharry, Sheyda Dehghani, Ellen Beshuk

Faculty Mentors: Saul Honigberg & Scott Hawley

EUReka! Course: BIOLOGY H206 Genetics

Reprogramming T-cells Through DNA Origami to Treat Leukemia

Acute Myeloid Leukemia is a heterogeneous disease involving mutations in T-cell phenotypes and functions. AML is characterized by the abnormal accumulation of immature myeloid cells in the bone marrow and peripheral blood. This accumulation of cells can lead to immune exhaustion; however, T cells allow for cytotoxic mechanisms to execute leukemic cells in AML patients. There are many therapeutic approaches to achieve this, but our focus will be creating nanocarriers delivering genes that encode for chimeric antigen receptors (CARs) to reprogram T cells to eliminate only tumor cells and have less variation from batch to batch. This method requires an emerging approach in nanotechnology called DNA Origami. DNA Origami plays an important role in drug delivery, specifically nanocarriers for T-cells in leukemia. We will describe a more efficient method of reprogramming T Cells to have tumor-recognizing capabilities, thereby making cancer treatments less complicated. The genes carried in the nanocarriers will be introduced into the T-cell nuclei, targeting CD3-T receptors (TCR) complex, reprogramming the T cell to target Acute Myeloid Leukemia cells.

Clay Belz, Kaycee Factor, Aminatu Idowu

Faculty Mentors: Saul Honigberg & Scott Hawley

EUReka! Course: BIOLOGY H206 Genetics

Prevention of PrP^{Sc} Conversion

Creutzfeldt-Jakob Disease is a rare neurological disease caused by the accumulation of prions that affects about 350 people in the United States yearly. When an individual has CJD, the PrP^{Sc} prions overwhelm the PrP^C proteins and continue accumulating until the individual has severe mental deterioration and eventually death as there are no cures [3]. This will utilize synthetic hybrid proteins by using a DNA binding protein to attach a DNA origami oligonucleotide staple to the PRNP gene of a functional PrP^C protein, and stabilizing its alpha helix structure, thus preventing it from converting to beta-sheet structures (PrP^{Sc}). DNA origami also serves as a scaffold to immobilize the hybrid proteins and keep them in proximity to the prion proteins. This will prevent it from binding to other PrP^C proteins and converting them to PrP^{Sc} through competitive inhibition, which ultimately prevents amyloid buildup.

Creating this mechanism to prevent formation of the structure of prions that cause Creutzfeldt-Jakob disease is of utmost significance for the individuals affected by the disease, public health, and the advancement of our understanding of neurodegenerative diseases such as Alzheimer's and Parkinson's diseases.

Maqdas Bhatti and Abigail Doty

Faculty Mentors: Saul Honigberg & Scott Hawley

EUREKA! Course: BIOLOGY H206 Genetics

Potential Therapeutic Method for Cystic Fibrosis

Cystic Fibrosis is an incurable recessive genetic disorder that affects 70,000 people worldwide but 1 out of 30 Americans is a carrier for the disease. Cystic Fibrosis causes the CFTR protein in the lungs to function very minimally or not at all and this results in chloride being trapped in the cells. If chloride cannot move, the cellular surface becomes dehydrated which will then lead to mucus buildup in the lungs. Delivering a functioning copy of the CFTR gene to affected lung cells will allow them to create functioning CFTR proteins, which will lead to no mucus build-up in the lungs with Cystic Fibrosis. The mutation that causes CF is on chromosome 7. Taking a functioning CFTR gene and a viral backbone and combining them would create the hybrid (functioning CFTR gene) plasmid, which would then be combined with viral proteins to create capsids for the functioning gene to be delivered to the cells that need it. This would then be injected into the patients through capsids so it will bypass the patient's immune system. This would allow the patient to have a normal functioning CFTR gene in their body so none of the symptoms would be present in a person with both recessive copies of the mutant gene.

Gabriela Díaz Leguillú, Chris Viermann, London Witthar, Lily Stedman

Faculty Mentors: Saul Honigberg & Scott Hawley

EUReka! Course: BIOLOGY H206 Genetics

Insulin-producing Cell Transplantation: A Promising Approach for Treating Diabetes

Diabetes is a disease characterized by elevated blood sugar levels. In the United States, more than 37 million individuals are estimated to have the disease and a further 100 million are predicted to be in the early stages [4]. Over time, elevated blood sugar levels can lead to heart disease, nerve damage, visual problems, and kidney disease. Diabetes is usually divided into two main categories: type I and type II. In type I diabetes, otherwise known as insulin-dependent diabetes, the beta cells that produce insulin to lower blood sugar levels are attacked and destroyed by the patient's own immune system. In type II diabetes, or non-insulin-dependent diabetes, the body fails to produce enough insulin, or it becomes resistant to it and requires higher levels [5]. Despite the abundance and severity of this disease, diabetics spend an average of \$9,601 on diabetic supplies and medications per year [6]. Thus, understanding how we can make diabetic medications more efficient can help save lives and ease the financial burden on millions of Americans. One way we can do so is through the transplantation of insulin-producing cells into the bloodstream. By creating alternative "beta cells" with cell membrane peptides that won't be recognized by the immune cells that target the endogenous beta cells, type I diabetics will be creating their own insulin without being attacked by their immune system. This would also benefit type II diabetics as it would provide an additional source of insulin. These alternative "beta cells" would be regulated through a negative feedback loop that responds to glucose levels in the bloodstream. Since these cells would stay in the bloodstream for many years, it would eliminate the need for daily injections. Overall, this approach to treating diabetes could significantly reduce the cost of diabetes-related treatment and improve patient outcomes.

Brooke Higgins, Judah Jerls, Grace Dang

Faculty Mentors: Saul Honigberg & Scott Hawley

EUReka! Course: BIOLOGY H206 Genetics

Creating a Bivalent Protein-based Vaccine Against Influenza and SARS-CoV-2 Using Synthetic Hybrid Proteins and PCR

Infectious diseases caused by pathogens such as influenza virus and SARS-CoV-2 continue to pose a significant threat to global health. The creation of protein-based vaccines has emerged as a promising approach to developing both effective and safe vaccines against these pathogens. Synthetic hybrid proteins can combine antigenic domains from different pathogens to create a single vaccine candidate that can stimulate an immune response against multiple pathogens simultaneously. Our M project aims to create a bivalent protein-based vaccine candidate against influenza virus and SARS-CoV-2 by combining antigenic domains from both viruses into a single hybrid protein. The antigenic domains of each virus will be identified and selected based on their ability to induce an immune response in humans. The hybrid protein will be designed using bioinformatics tools to ensure optimal antigen presentation and immunogenicity. The polymerase chain reaction (PCR) technique will be used to amplify and assemble the antigenic domains into the hybrid protein. The vaccine will be expressed in E.Coli, which will be engineered to target both the gut and tissues of the body. This will facilitate the uptake of the vaccine antigen to the immune system and test its ability to induce an immune response against both influenza virus and SARS-CoV-2. The creation of a bivalent vaccine candidate against these two viruses is expected to provide broader protection against future outbreaks of either virus, potentially reducing the need for separate vaccines for each pathogen. Furthermore, this approach could be extended to other pathogens and could lead to the development of multivalent vaccines against multiple infectious diseases.

Meghan White, Tessa Eads, Jessica Kim

Faculty Mentors: Saul Honigberg & Scott Hawley

EUReka! Course: BIOLOGY H206 Genetics

Using CRISPR/Cas9 to Inhibit Mosquito-Borne Pathogens: Targeting the Salivary Gland Surface Protein 1 (SGS1)

During blood feeding, female mosquitoes inject saliva into their vertebrate hosts. This process leads to the transmission of mosquito-borne pathogens, which account for approximately 1,000,000 annual deaths. A high-molecular weight protein, known as the salivary gland surface protein 1 (SGS1) is one of the most prevalent and conserved proteins released by a female mosquito's salivary glands. The mechanism for pathogen transmission is hypothesized to come from the cleavage of a transmembrane portion (red) of the gene that is released once the saliva enters the host. These transmembrane proteins allow a channel for the pathogen to enter the host cells. There is a cleavage site just before the transmembrane portion of the gene where aspartyl auto-protease cleaves the protein. There is a binding portion for this protease at amino acids 2695-2729 (Liu et al.). We will isolate this binding portion using PCR and use it as guide DNA for CRISPR. When joined by Cas9, these three parts will induce a random mutation in the binding site, preventing binding of aspartyl auto-protease. By inhibiting the binding of the protease, we eliminate the cleavage of the transmembrane proteins, thus disrupting the infection pathway into the host cell.

ENGLISH 309WI
Rhetorics of Public Memory

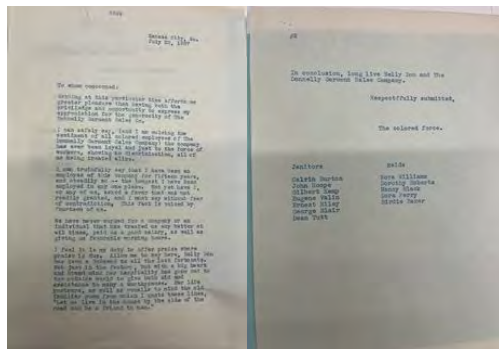
Sarah Battle, Daryian Berymon, Gloria Carson, and Joslyn Ross

Faculty Mentor: Jane Greer

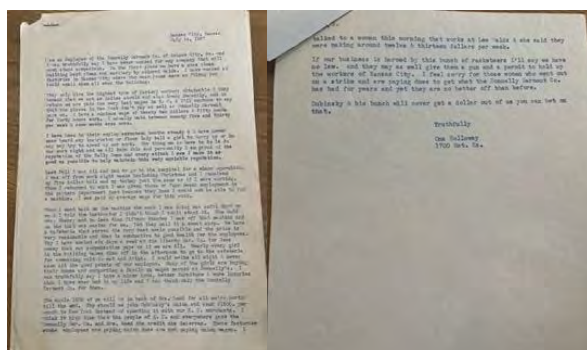
EUReka! Course: ENGLISH 309WI Rhetorics of Public Memory

Highlighting Marginalized Voices at the Donnelly Garment Company

The workers at the Donnelly Garment Company that were titled "The Colored Force", quite possibly had much more to say than what we have access to. This Garment factory was no exception to the segregation and discrimination that plagued society in the 1930's and 40's. Though the company was a satisfactory workplace, these men and women's experiences were swept beneath the shadow of Nell Donnelly's glory. The Pro-American sentiments present and the erasure of the voices of people of color is the erasure of history. As the colored force notes, it is time to "offer praise where praise is due.", and we aim to do that by honoring those who worked tirelessly as maids and janitors and to tell a more full and complete story of all the workers no matter their skin color or their station.



Label: This letter is the 1 out of 700 letters that represents employees of color at the Donnelly Garment Company. It was written by one individual and signed by many which by default silenced the other thirteen voices of those who worked as maids and Janitors, sweeping them under the rug as most whitewashed history has done.



Label: This letter was written by a woman named Ona Halloway, in it she praises how the Donnelly Garment Factory was always kept clean. These "sanitary conditions" were provided by real people with whole and complete lives. But as shown in this letter, many of those individuals are reduced to simply being referred to as "colored maids".

Karen Hughes, Reagan Johnston, Ella Whitfield, Emma Sauer

Faculty Mentor: Jane Greer

EUReka! Course: ENGLISH 309WI Rhetorics of Public Memory

All in a Day's Work: The Letter Writers of the Donnelly Garment Company

Through the late 1930s, Kansas City's garment industry was booming, even in the midst of economic struggles gripping the country. One of the most successful companies during this time was the Donnelly Garment Company, founded and led by Nell Donnelly. As the company continued to grow, amassing over a thousand workers, it drew the attention of the International Ladies Garment Workers' Union (ILGWU). In response to the ILGWU's attempts to unionize the company, over 700 letters were written by the factory workers defending the DGC, the majority of whom were working-class women. These letters give crucial context to what about their jobs mattered most to the letter writers.

During the Great Depression, being able to provide for themselves and their families was crucial for the letter writers. Fair wages, safe working conditions, paid time off, and other benefits gave the letter writers a sense of security and financial independence.

With access granted to read the letters from the State Historical Society of Missouri, we examined what the workers described as important aspects of their jobs in the letters. In addition, genealogical research was also conducted to find any records, personal details, or additional information to shed light on the lives of these women.

We found that a variety of different things were important to these letter writers and selected 5 to highlight in our project. This presentation will be available as an online exhibit later this year. Our goal is to give people a greater insight into the lives of the Donnelly Garment Company workers.

**Sarah Kirk, Dede Davenport, Ashley Moreno, Darius Stewart,
Genevieve Ismert**

Faculty Mentor: Jane Greer

EUReka! Course: ENGLISH 309WI Rhetorics of Public Memory

Passing Through the Eye of the Needle: Letters from the Donnelly Garment Company

The Kansas City Donnelly Garment Company employed many workers (mainly women) who wrote over 700 letters in response to the compulsion to unionize that was sweeping the country. The workers of Nelly Don's Garment factory were never seen or credited during their work assembly where they would end up producing high-quality affordable dresses for at-home mothers. These letters give us a glimpse into their history as individuals and their values as factory laborers during the 1930s. Through the letters, these workers were asking to be heard; by highlighting these letters, we give marginalized workers a platform and voice. In our master label, we will act as the thread that weaves together the different themes and important observations that appear throughout these letters. The voices of the women workers, which in most cases would never be given a second glance, are illustrated through these many letters lending us an eye into history. Reading the letters and delving into the lives of the workers that wrote them, we can develop interpretations and reimagine the lives they lead - why these letters were so important to them. As the master label and introduction to this project, gathering as much information is key. By researching the archives at SHSMO (State Historical Society of Missouri), exploring the depths of the Ancestry.com records, and constant communication with our fellow project heads, we can shape and define this exhibition to reflect the fraction of the past we are examining.

History is complicated and this stitch in time has many defining details. Even with all this inspection, we have limited information to present and will employ Freeman Tilden's methods of interpretation to sew the pieces together and explain the process as it comes to light. Nothing is black and white; through examining these letters, we see a side of history that focuses on the benefits of unionization while also presenting open opposition to the idea. By scrutinizing these letters in a group setting and working with other groups on this project, we are developing our teamwork abilities, maturing our communication, and improving our skills of interpretation.

The master label is the guiding hand that threads the needle, providing the other sections with an outline and ultimately establishing the rest of the exhibit topics. Understanding these laborers' personal lives is essential to comprehend the importance of these letters and the impact the Donnelly Garment Company had on their livelihoods - and the implication this might garner for today.

Lauren Leetch, Charlie Scheckells, Kate Holt, Halle Hartman

Faculty Mentor: Jane Greer

EUReka! Course: ENGLISH 309WI Rhetorics of Public Memory

**The Workers' Will: An analysis of the rhetorical strategies used by
Donnelly Garment Company employees in anti-union letters**

In 1937, workers at the Donnelly Garment Company (DGC) wrote several hundred letters explaining their reasons for not wanting to be unionized by the International Ladies' Garment Workers Union (ILGWU). **We are working with four other teams to create an exhibit designed to explore the nuances of these letters, especially workers' ideas** about unionization efforts and the conversations happening with and about the workers. Our section of the exhibit is focused on the rhetorical strategies the workers used.

Our research question is: What rhetorical strategies did the letter writer's use to convince the audience that they didn't want to unionize? Through our research we have discovered a couple different tactics that they use including, but not limited to, comparison, praise, credibility, and community building. They used these different ideas to push their dislike of unionization without having to actually say it.

We close-read over 60 letters and found four that have common themes and strategies. We did research on the writers through ancestry.com, to fully understand who they were as a person when they wrote these letters. The letters we chose were written by Katherine Hamel, Dora Mattox, Opal Stufflebean and Nell Harper. Our in-depth understanding of these letters will help us create an exhibit that is whole and well thought out.

This project aims to explore and introduce the rhetorical lives of the Donnelly Garment Company workers to the wider community. With our work, we hope to spark interest in the not-so-distant past as well as provoke thought into the rhetoric that these women employed. We have learned a lot about these writers and look forward to putting this exhibit together.

We believe that the letter writers' viewpoints and stories are worth telling, even if they aren't what a modern reader might expect of early union organizing efforts. By showcasing their wit and rhetoric, we can not only provide a more nuanced narrative on the past, but inspire future scholars to investigate their own questions.

Doris Graves, Ellery Convery, Ethan Ryan, and Mara Huck

Faculty Mentor: Jane Greer

EUReka! Course: ENGLISH 309WI Rhetorics of Public Memory

“Can 1,300 employees be wrong?”: The Donnelly Garment Company Letter Writers' Attitudes toward Unions

The 1930s were a period largely defined by economic instability, and as a result, labor movements across the country began to form federally recognized unions within important centers of production. The garment industry was one of these key centers that groups like the ILGWU (International Ladies Garment Workers' Union) sought to organize in regions like Kansas City. However, these efforts clashed with the beliefs and desires held by the employees of the most successful garment factory in Kansas City, the Donnelly Garment Company. These workers understood that unionization would force them under similar rules and regulations as other garment factories in the Kansas City area. As a response, the workers wrote letters to their CEO, Nell Donnelly Reed, in an effort to vocalize their own experiences. This project aims to explore and amplify those frustrations, praises, and perspectives held by the letter writers' most concerned with the labor movement.

The research that went into this project was focused on answering one comprehensive question: “What more can the letters tell us about how workers felt about unions?” To answer this question, we worked with the James A. Reed collection at the State Historical Society of Missouri to choose five letters that best reveal the letter writers' attitudes toward unions. Our findings reveal women workers who used the available platforms of speech to represent themselves and their interests. In such a time of significant social upheaval, these women actively sought to retain their own forms of social organization and proposed legitimate arguments against the contrary opinion. Now, almost 90 years later, these letters potentially hold a significant place in public memory as both artifacts of women's history and labor history. With their return to public display and discourse, their arguments and motivations can live on outside of the historical archive.

POLI-SCI 221
Intro to Comparative Politics Research

Saja Daifallah

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Employment: Can the Educated be Vulnerable to Unemployment?

Data Source: World Value Survey

How much does it matter to have employment after college? This project examines how in the country of Jordan there is a higher percentage of people who are educated that are unemployed, compared to people in the United States. Then, I examined the rates of unemployment in each country to the level of education attained. Using WVS wave 7, I discovered that Jordanians are very vulnerable to unemployment, even if they have a higher degree. I also observed that, despite the fact that the educated have lower unemployment rates than the uneducated, there is still a very large percentage of unemployed educated individuals.

Evan Donnelly

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

How do income levels and socioeconomic factors impact voter turnout?

Abstract: My paper looks at how income levels affect voter turnout. Using the World Values Survey data, I examine voting in national elections and income level in Japan. The WVS data shows a positive correlation to voter turn out on national elections increasing for low income people during times of economic stability. Conversely the data shows voter turn out in national elections is decreasing for middle and upper income communities in times of economic stability. Economic stability does not hold though, so understanding how lower income communities voter turn out falls greater compared to middle and upper income levels in times of recession. This is due to unstable housing (Correa 2012) and higher unemployment (Rosenstone 1982) for low income communities.

Sadie Giles

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Impact of President Abdel Fattah al-Sisi on the Egyptian Human Rights Crisis

Abstract: Since the military overthrow of Egypt's elected president, Mohamed Morsi in 2013 carried out by then military leader, and current president, Abdel Fattah al-Sisi, Egypt has been undergoing a national human rights crisis. Since al-Sisi became president, Egypt has been under an "iron grip" (BBC 2020). Many innocent citizens of Egypt have been imprisoned for prolonged periods of time, for the mildest of crimes and have been denied any type of fair trial. Many of the prisoners include journalists, human rights activists, social media influencers, and government critics, most being accused of "terrorism" (Human Rights Watch 2023). While in prison, many allegedly undergo torture, sexual assault, and forced disappearances have become alarmingly common (Arab Center Washington DC 2021). The use of the death penalty has also increased immensely. This study examines the levels of respect for basic human rights that citizens of Egypt felt before and after the election of al-Sisi in 2013 in order to determine a relationship between the election of the President and the human rights violations currently going on.

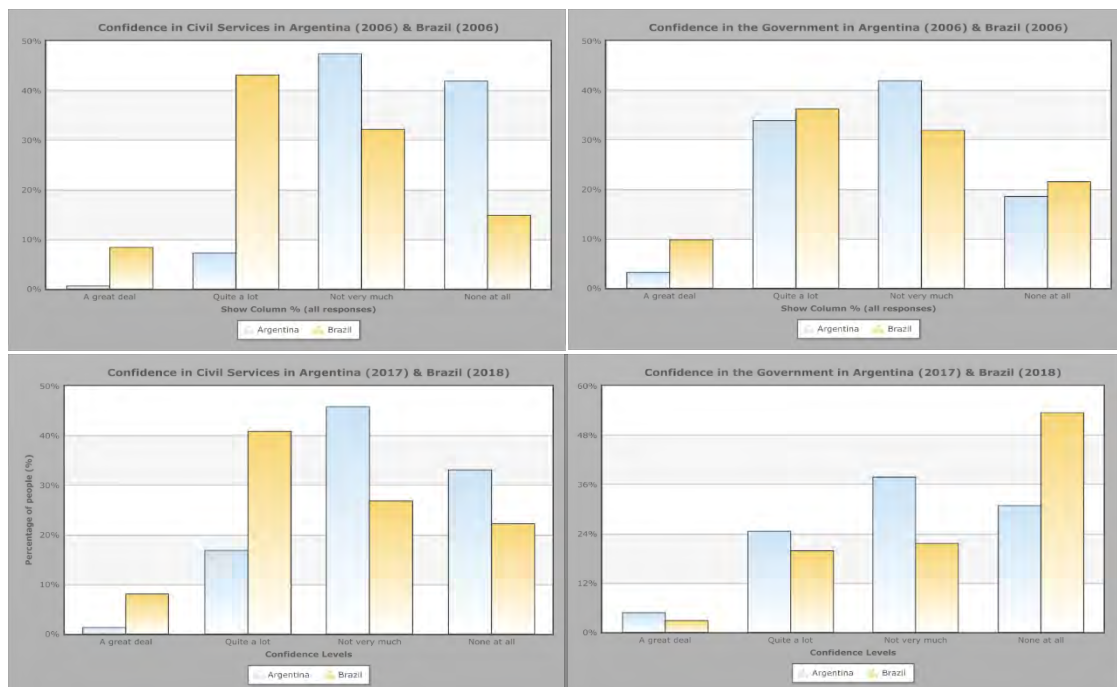
Evan Hayakawa

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Citizen Confidence in Civil Services and the Government Before and After Hosting the Olympics

The Olympics host cities are infamous for over-promising booms in the economy, more jobs, and better infrastructure. The reality is abandoned stadiums, unfinished urban projects, and a whole lot of debt. Rio de Janeiro is perhaps the most infamous Olympic host. Brazil's examples of lingering debt, ongoing recovery of displaced citizens, unfinished projects and disruptive changes to public transit still remind people of the overzealous attempt to display national progress. Data



gathered from the World Value Survey and V-Dem show trends in confidence in civil services and government before and after hosting the 2016 Summer Olympics. Brazil's data is compared to Argentina (a country with a similar political system as Brazil). The expected results, as confidence in civil services decrease confidence in the government will also decrease in Brazil, were not fully supported. However, the data does show a decrease in access to public services among rural residents after 2016.

Alejandro Hernandez

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

**Comparing the Impact of Civil War on Public Trust in Government:
A Case Study of Ethiopia and Nigeria**

How do the civil wars in Nigeria and Ethiopia compare in their effect on public trust? My theory is that greater public trust in the government will produce greater confidence and national pride as well, causing a shorter period of conflict during a civil war/internal conflict. This is significant because it helps us understand the impacts of civil wars in the modern era, and what kinds of regimes could be established in these developing countries.

Jake Islas

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Compulsory Voting: More or less trust in democracies?

Do countries with compulsory/required voting systems have higher rates of trust in government from its citizens? This research project aims to find a relationship between compulsory voting systems and government approval. It also examines the difference between voting systems that are compulsory and those that are not. Using the World Value Survey wave 7, I find no relationship between compulsory voting systems and trust in government.

Lauren Karr

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Housing Humans

Using the World Values Survey I sought to compare the relationship between a person's housing security and the rate of completion for a high school equivalent education or trade school. When looking at both the Netherlands and Canada I found that my theory was supported as expected. If the individual is able to maintain stable shelter in early adult years they will likely complete a degree program they can apply to a career in the future. I chose to study the issue to provide evidence that permanent housing must be an investment put into the citizens by its government. If an individual is able to have their basic needs met and complete an education, they will likely be able to become self-sustaining and contribute economically to their community down the line.

Sara Lott

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Regime and Trust

When it comes to policing and the government there is a divide in trust within communities due to how they serve and respond to problems throughout the world. At the same time, I believe that if there is no trust in the police there will be little to no trust within the government, also with the role of what type of democracy or regime is taking place in that country. Examining countries Jordan, Mexico and the United States with graphing and taking results from the World Values Survey. In non-democracies their faith in policing is high but when it comes to government there is no trust that comes from the upper hand. Strictly comparing these countries there is a high number of variances between the three in what areas located.

Makaylee Morelli

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

How does personal experience with crime and the frequency and mode of media affect interest in politics?

How much does personal experience with crime and the frequency and mode of the news one uses to receive information matter when shaping individuals' political interests? In this project, I examine this relationship and how the information and interest are shaped by our perspectives on violent crime. Using the World Values Survey wave 7 we can see this relationship and what should be looked for when wanting to improve political interest. While experience with violence and media consumption improves interest in the United States, I find the opposite effect in Mexico.

Julius Odugwe Jr

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Does the Level of Education Affect Income in Germany?

There are many studies and subjects about the level of income people are faced with and what plays a big role in it. One of its biggest contributors to income (the one that appears to be talked about the most) is the level of education received. People who receive higher education are said to have better chances of finding a good job with great salaries for income. Although it may be true in some cases, there are people who didn't pursue higher education and yet, were able to have a large pool of income. Thinking about this, I was curious to do a project on Germany's level of education and compare it with the income. From what I was able to gather so far, most people who didn't receive higher education made average salaries, even with younger people (ages 16-24). These two concepts are each the dependent and independent variable. Although these are currently the results, I plan on doing more research before it's finalized.

Vari Patel

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

The effect of urban density on support of democracy

How much does urban density of a country affect the support of democracy. Using the World Values Survey, I examine the effect of urban density on the support of democracy through researching The United States and India. I find that the higher the urban density the higher the support of democracy will be in any country. The significance of this question is that after understanding how rural conflicts contribute to democratization of a certain country, the government can better those conflicts and rural area's but urbanizing them a little bit more so they are slowly starting to have more development within those areas.

Diana Perez

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

The Relationship Between Trust in Government and Income Level in Mexico

The relationship between a government and its own citizens can be difficult to understand, especially the many factors one has to consider. Individuals with different income levels all view the government in their own way. In this project the relationship between one's income level and their trust in government is explored. I theorize that if one has a higher income level, then they are more likely to have an overall higher confidence in the government, while those in lower income levels are likely to have very little confidence in the government. The World Value Survey wave 7 finds the existence of this relationship to be true in the country of Mexico

Michelle Perez

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

The Consequences of the Media: the Effect News Sources Have on the People's Fear

How does the media source and how often people check the news affect the people's fear of police or military interference in their private lives? The purpose of this study is to better understand the influence that the media sources used to inform the people has on their fear of police and military interference. This shows the pattern in fear that may be influenced by the different media sources. The graphs will show that there is a slight growth of people who have been affected by police and military in their private lives depending on the media source used to provide the information.

Joseph R. Weimer

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

The influence of Irish geo-political policies on British trade.

The geo-political policy's enacted by the Irish government greatly affect How the government of the United Kingdom develops trade agreements and legislation. Using the world Values survey, I examined the relationship between Irish geo-political policies and British trade policies. I found that the relationship of these actions by both governments often mimics or attempts to establish control or authority over the other as to maintain a powerful global image in the region. I am studying this topic to understand how the politics and the pressing issues of different Nations in the same region can influence one another's economic influence or cause tensions to arise. It is important to look particularly at these two nations and the specific policy types because historical conflicts between the two countries have significant shaped policies.

Angel Williams

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Corruption in Politics: State and Local Levels

Background: At the state level, highly educated and less educated residents viewed Mexico as very corrupted at the state and local levels. At the state level, highly educated people represented 44.3% of those who voted “Mostly corrupted” at the state level. While at the local level, highly educated people represented 34.3% of people who voted “mostly corrupted” at the local level. Less educated made up 36.7% at the local level and 39.5% at the state level of the category “mostly corrupted.” Also, both groups also viewed Mexico as “somewhat corrupted” as well.

Results: There is a relationship between education level and level of perceived corruption. The correlation is positive because as education level goes up, so does the level of perceived corruption.

I did not find support for my hypothesis because my results indicated that those with a higher level of education viewed Mexico more corrupt at the state and local levels more so than those who are less educated.

Gabrielle Wussow

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Human Rights Violations in Serbia Affect Serbian Citizens' Legitimacy of Their Government

Abstract: How do human rights violations in Serbia affect Serbian citizens' legitimacy of their government? This project examines this relationship, and how their confidence in the government decreases as the government commits human rights violations, such as collecting information without the citizen's knowledge. Using WVS, I find a negative relationship between the Serbian people's confidence in the government and disapproval of secretly collecting information against citizens.

Zackary Zeller

Faculty Mentor: Debra Leiter

EUReka! Course: POLITICAL SCIENCE 221 Intro to Comparative Politics Research

Education Accessibility: How Ethnicity and Income Level affect Education Extensiveness

How much does income level and ethnicity play a role in education accessibility in the United States and Canada? This project examines the relationship between income level and ethnicity on a parent's perceived access to child education. Using WVS wave 7, I find a positive relationship between parental worry in minority ethnic groups and low-income families.

PBHL 496
Evidence-Based Public Health
Capstone & Seminar

Raneem Akkila

Faculty Mentor: Joseph Lightner

EUReka! Course: PBHL 496 Evidence-Based Public Health Capstone & Seminar

Assessing Social Determinants and Leading Causes of Death in Jackson County

Background

The top five leading causes of death in the United States are heart disease, cancer, COVID-19, accidents, and stroke. The leading causes of death are commonly associated with the social determinants of health. The social determinants of health help public health officials gain a better understanding of what causes are contributing to the leading causes of death in specific communities. The purpose of this study is to determine the five main causes of death in Jackson County and develop appropriate solutions to improve health equity.

Methods

This is a correlational study using data gathered from primary (Jackson County Health Department through their Community Health Assessment) and secondary (PLACES, CDC, WHO, and crime) data. Results are categorized by economic stability, education accessibility and quality, healthcare accessibility, social and community context, and neighborhood and built environment.

Results

Cities with the highest rates of economic instability were Unity Village, Grandview, and Independence. Levasy, Sugar Creek, and Buckner had the lowest rates of high school and college graduation. Depression ranked the highest among Oak Grove, Buckner, and Grain Valley. Vegetation coverage was lowest among Levasy, Grain Valley, and Buckner. A resident of Jackson County can expect to pay approximately \$1,025 in out-of-pocket medical expenses per year. Individuals in Lake Lotawana, Lake Tapawingo, and Lee's Summit had the best health outcomes, with the lowest rates of negative social determinants.

Discussion

Negative social determinants seem to be clustered around Buckner, Levasy, Raytown, Grandview, and Grain Valley. Additionally, the same cities have the highest rates of poverty, African American and Latino residents, and mixed residents. Future projects should aim to improve economic stability in struggling areas, promote educational attainment in priority areas, provide mental health services to community members, address inequality and racism, and provide more community funding.

GECRT-SS 111

Health Issues in Aging

Lojain Abunasser

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental changes through the decades

Aging is an important category in our lives, but what if it came to mental illness in aging people, My research was mostly based on how the view of mental health has changed from the past to now because it has differed a lot according to the survey and the research that I conducted. I conducted most of the interviews on the phone; I sent the interview link to the people, and 3 of them answered directly there, and 2 couldn't, so I had to interview them by calling, writing down the answers, and then reviewing the answers with them to make sure I wrote everything they wanted. The research questions that I used in the last assignment to identify the differences and the themes were What do you think contributes to the changes in societal attitudes toward mental health? And how has access to mental health treatment changed? As written, I have chosen open ending questions so I would get different answers and explanations for each question, and that is what happened. In the last 50 years or so, everything has changed, and with that, people got more educated about a lot of things, which helped make people more comfortable talking about and discussing different topics, especially mental health. In the past, people would look at people with mental diseases as crazy people and be ashamed and bully them, but nowadays they accept them and try to find cures for them to make them feel better; also, family and friend support plays a huge role in the situation. Because being loved, supported, and belonging helps people be okay, comfortable, and happy. I analyzed the data by collecting them from qualtrics then I analyzed it on excel to make them more organized and easy to understand and read. Technology, social media discussion, and education have been the most effective fields at raising people's awareness of mental desires. having more technology available to people so they may learn more about diseases and how medicine has advanced over time in order to provide new drugs to treat a variety of disorders. Social media was also very beneficial since it allowed individuals to witness other people's experiences. Also, because of increased access to and availability of mental health therapies, it is now simpler for people to become well. Discussion also plays a significant role in what they share because, unlike in the past, when individuals talk about such ideas, they get new knowledge and insights. Also, this may have improved as more people have come to terms with the thought that they may have mental illnesses and have expressed a desire to seek treatment. Also, there is no longer a stigma attached to discussing it, so more people may obtain the drugs, therapists, and other treatments they require. Nowadays, there is greater availability and access to mental treatments, which has made it simpler for people to become well. Talking about these issues is also very important since, unlike in the past, people will have more knowledge and thoughts about them when they do so. Also, this may have improved as more people have come to terms with the thought that they may have mental illnesses and have expressed a desire to seek treatment. Also, there is no longer a stigma attached to discussing it, so more people may obtain the drugs, therapists, and other treatments they require. In conclusion, those themes shows that people are improving and will improve more by the time because people are being able to discover new treatments that will help people to get better and maybe with being more educated about how to face mental illness and how to avoid it and take care of their selves in a proper way.

Sarah Agorua

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Decades Interview Project

The goal of this research project was to interview the aging population and see their overall view on mental health and how they see it affecting other people and how they see it affecting themselves. Some questions included 1. How was mental health portrayed when you were younger differently than how it is portrayed today? 2. Were there any stigma's when you were younger around mental health? 3. What are some challenges for creating a positive atmosphere when discussing mental health? This topic is really important, so we see how the older generation viewed mental health and how they have dealt with there's because the younger generation is definitely suffering and there needs to be things to prevent it. Research shows that a lot of the aging population had trouble seeking help (Mackenzie, Erickson, Deane, & Wright, 2013). This was probably because they didn't believe in it. Continuing to educate people on mental health is so important to avoid people not being able to seek help out of fear or denial.

To get firsthand answers about mental health people from the age 50 to 90 were interviewed through survey questions. The surveying platform was called Qualtrics you could ask qualitative and quantitative questions on there. The survey was able to be sent to the person being interviewed. Some of the interviewers just called their interviewees on the phone and input the answers then. This was a very productive tool to get multiple group members answers all in one place where data could be collected. Once all the people had been interviewed data was easily able to be collected and transferred to an excel document, where the interviewer did further data analysis.

Through the data analysis themes and percentages were able to be found. Statistics such as themes that were present in 45% of the responses was acknowledgment and awareness. Followed by social media with a little over 20%. Lastly, education and keeping an open mindset were found in 14% of the samples. There was overlap in the responses as interviewees believed that themes influenced one another. Other statistics and themes showed that over 50% of the people surveyed were doing good mentally and have been their whole life. A small percent of these people discovered that they have an actual mental illness. And about 1/3 of people have had ups and downs throughout their lives but have had a realization of how to better their mental health. Over half the people said that they use therapy to help deal with mental health concerns. A lot of people also have supportive friends and family when they are dealing with stuff.

This project was really helpful to see how a wide variety of people of different ages view and experience a topic as important as mental health. So many stigmas are put in place surrounding mental health and to finally get solid answers was really interesting. A previous stigma that many people had were that the aging still didn't care about mental health and through the interviews it was able to be noted that they used to think it was fake and people who had it were crazy. Now through education and research they have come to know more about it. A lot of people also didn't know that a lot of the aging population is happy, but because they are more experienced with making decisions compared to for example a college student, so they are happy with their life. It was great to draw these new conclusions.

Yaretzy Aguirre

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health in the Aging Population

Introduction: Mental health has become an extremely popular topic and a rising health issue in our society. Although the younger population is aware of these issues rising, the older populations haven't fully grasped how much of a problem this is. This could be due to mental health being stigmatized for so long. Although mental health within the aging population has been talked down on, over 20% of people over the age of 55 struggle with some type of mental health concern (Mitchell, 2014). This can include isolation, dementia, psychosis, etc. This gap between the aging population and understanding mental health piqued an interest in the research conducted. This led our research group to seek to find "How do the views on mental health have changed throughout the decades?"

Methods: To be able to fully understand how the perception of mental health has changed over the years a qualitative survey was proposed that highlighted a broad variety of topics that included perception, resources/treatments, and personal experience with mental health. It was important to cover more than one topic to be able to fully understand the different encounters that participants had with mental health. There were 40 interviews conducted in total with researchers interviewing at least 1 person in their 50s, 60s, 80s, and 90s. Interviews could be conducted in person or online through the Qualtrics survey. Qualtrics is an online platform used to record and analyze data, see results, etc. From Qualtrics, data was exported and used to create a thematic analysis from the different questions chosen by each researcher.

Results: From the surveys, there were thematic themes shared within some of the questions. Over 80% of participants recognized that there was a negative stigma surrounding mental health when they were younger. 74% stated that when discussing stigmatization around mental health, it was attached to the words "crazy or insane". When asked about mental health within their own lives, over 33% of the participants stated that they have had ups and downs dealing with mental health throughout their lives. Regarding seeking treatment for themselves and maybe others, 33 out of the 35 participants believed that mental health resources were accessible, 27% of interviewees stated that the price tag is costly and other factors such as location, or country led to resources being limited. When participants were asked what has caused their perception of mental health to shift if they had one, 45% of respondents stated that finally acknowledging what mental health had caused them to change their societal attitudes towards mental health. Roughly around 20% said that social media presence played a big impact on the shift in attitude as well.

Conclusion: Mental health conversations have shifted from being described with a negative connotation to individuals seeking help when struggling. Through education, awareness, and social media, changes have occurred leading to having a more open mind than participants once had. Continuing to have positive correlations with mental health advocates, personal experiences have helped shift mental health in a more positive direction.

Sammy Alabed

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Perception of Mental Health

Introduction: As the topic of mental health has increased in popularity, the subject matter has been pushed into the spotlight. With that in mind, the transition of discussions concerning mental health wellness being taboo to encouraged is symbolic of the decrease in stigmatization. In fact, a case study done on individuals who were open about their mental health struggles showed that, “The percentage reporting being at least “somewhat” embarrassed reduced from 42.5% (1990-1992) to 35.5% (2001-2003)” (Mackenzie, 2014, 7). Research was conducted amongst the aging population, ranging from those who were in their 50s to their 90s, to explore how views on mental health have changed throughout the decades. The following questions were asked: how have the perceptions/portrayal of mental health changed throughout your lifespan, what do you think contributes to the changes in societal attitudes towards mental health, were there any stigma's when you were younger around mental health, what are some challenges for creating a positive atmosphere when discussing mental health, can you describe an impactful event in history that changed your views of mental health, how effective do you believe the resources available for mental health are and specifically which ones, how accessible do you believe the resources available for mental health are and specifically which ones, how has access to mental health treatment changed, in your opinion, how has your mental health changed throughout your lifetime, and how have you addressed mental health concerns throughout your lifetime.

Methods: Initially, questions were brainstormed, finalized then transferred to Qualtrics. The platform allows the user to distribute questions in the form of a survey to the intended audience via email and social media. Once done, the responses were reviewed and analyzed for commonalities and differences. A thematic analysis was then completed, which compiled themes amongst all the respondents.

Results: Upon the interview's completion, there were three key findings and themes related to the shift in attitude towards the perception of mental health. Firstly, it was noted that there had been a decrease in stigmatization. Nearly all stated that growing up those who had mental illness were frowned up, but now that has changed. In addition, the theme that the subject of mental health wellness had become more accepted, and people had a better grip on their mental health was found in the research. One respondent stated, “There has been a decrease in the stigmatization of mental health throughout their lifespan”.

Conclusion: The research done corroborates with other case studies covering the matter of perception of mental health. It is agreed that the stigmatization behind mental health illness has decreased over the years. Change in attitudes speaks volumes about the positive future of care in the health field and research. Specifically, as the findings of the research show that people are more willingly speaking up about their mental health issues, it may lead to new information being learned that results in finding various interventions that improve one's mental health.

Hiba Alterjalli

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Steps in the Right Direction for Mental Health

Introduction: This research project looks at how mental health has changed from the past to now among various aspects. The question is “How have the views on mental health changed through time?” This allows for the ability to take people's perspectives along with research to find common reasons for the change.

Methods: The results were collected qualitatively. Surveys were sent out to 35 anonymous and consenting participants ranging from ages 50-90 years old. This allowed for different perspectives among various ages about their thoughts and experiences with mental health. The survey contained 10 questions related to the overarching question. The platform used, Qualtrics, accumulated all the answers given by the participants to allow for a way to look for common themes. Thematic analysis was used to produce an answer to the question.

Results: The themes picked from the interviewee answers were past stigmas, acknowledgment/awareness, and technology. About past stigmas, 80% of the participants mentioned that there was some sort of stigma in the past, and 74% of those participants stated that they were negative. Most of the participants now say there has been a shift from these negative thoughts. Additionally, acknowledgment and awareness of mental health is thought to be a major factor of the shift in views by 45% of the participants. Participants believed technology plays a significant role in mental health awareness and had a positive effect on the change of views.

Conclusion: The study led to the conclusion that the view on mental health has, for the majority, changed in a positive direction. The results from the interviews and the scholarly articles showed that more people are starting to understand mental health and are more open to the concept. Stigmas are being forgotten as more people are becoming aware and acknowledging mental health. The use of social media and online platforms makes understanding mental health accessible to many. Although there has been positive movement, mental health is not 100% accepted and understood yet, so more improvement can be made for the future.

Rocio Alvarado

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health Through the Decades

The intention of this research is to provide insight on view of mental health, and how views have changed throughout the decades. Participants of the study were given various short answer questions about their perceptions, stigmas and opinions of mental health, questions focused on having the participants point out changes that have occurred throughout the decade that influence their responses. This research is important to enhance the idea that continuing research about mental health helps reduce stigma's surrounding mental health (Mackenzie, Erikson, Deane & Wright, 2013).

This research was conducted through a Qualtrics survey, which included ten questions. These questions asked participants about their perception of certain aspects relating to mental health like "Were there any stigma's when you were younger around mental health?", or how have the perceptions/ portrayal of mental health changed throughout your lifetime. Other questions inquired about the participants' thoughts on resources and treatments of mental health, with questions like "How has access to mental health treatment changed, in your opinion". Personal experiences were also inquired on in this research. The responses to these questions were then downloaded and transferred to a spreadsheet where a thematic analysis was given.

The main themes that were extracted from this research, was that mental health still holds a lot of stigma 80% of the participants in the study recognized that there was a stigma. Participants, however, did believe that over time the stigma has changed, and the stigmatization has decreased. With their own mental health, 50% of participants mentioned that they are doing good mentally, and if they are having issues, they would address their concerns to their physicians or seek therapy. This validates that there is change occurring to decrease stigma because 32% of participants mentioned that in years past people with mental health were seen as crazy or insane. Lastly, a running theme is that mental health help is more accessible which decreases the stigma surrounding mental health.

Overall, this research is important to increase mental health awareness and decrease the stigma surrounding it. It aids the research showing that there has is a decline in stigma (Ordu, 43). As future healthcare professionals it is important to see the beliefs of others when it comes to mental health to fill in the gaps and create a healthier environment for all.

Darlene Alvarez Martinez

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health in the Aging Population

Introduction: Throughout this project, our main focus has been on the mental health in the aging population and how they deal with it and what their perspectives are on mental health as a whole. Therefore, we came up with the following question, "How does the aging population manage mental health?" This would allow us to truly understand and analyze the different mindsets different individuals have when it comes to mental health, as well as how they approach the different issues mental health causes and how it could impact the individual as a whole, not only themselves but their families and other loved ones as well.

Methods: To obtain this information, we used our own research question and individually found individuals that pertained to different age groups, from ages 50-90 or older, and asked an assorted number of questions, while maintaining the same questions amongst the group. This way, the results and responses we received would be most concise and could base off our research appropriately. We then collected these answers and input them into an online form, through Qualtrics, which allowed us to analyze and compare our answers amongst one another as well. These interviews were recorded both in person and through phone, so we made sure to annotate the answers we were given.

Results: As a result, in our overall responses there was a lot of results which were very similar to one another. Most of the individuals interviewed stated that in their childhood and early life, had not received the appropriate information about mental health or most time it just wasn't mentioned, allowing us to analyze and come to a conclusion about their perspectives on mental health.

Conclusion: In conclusion, most of the patients agreed that they had not really ever discussed the topic of mental health within their families throughout childhood and early life and if they had, it would've lead to a different result. However, many stated that they are more open to discussing it now though it can be hard as times.

Halena Aquino-Dunkin

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

The Impact of Exercise and Socializing on the Mental Health of the Older Population

Introduction: This study was aimed at getting a better understanding of mental health management in the older population, specifically focusing on the use of exercise and interaction with others as an aid for mental health. A study done by Lei Yao et al. explained both the importance and impact of types of aerobic exercise on the psychological well-being of the elderly. Similarly, a study done by Jieyao Chen et al. discussed the importance of ensuring the older population socializes with others and described how socializing promotes better physical and mental health.

Methods: A qualitative 13-question Qualtrics survey was used to collect data from participants. The survey's questions inquired about what the participant does to manage their mental health, what the participants see others in their age group do for their mental health, the participant's medical mental health experience, the participant's personal opinions or perceptions of mental health and how it has changed as they've grown older, what the participants think causes a lack of focus on or poor mental health, and what the participants think should be done or changed when it comes to the mental health treatment/care of the older population. To conduct the interviews, the researchers directly interviewed the participants and then directly transferred the data to Qualtrics themselves. To analyze the data, 1 to 2 questions were given to each researcher for them to focus on and analyze the results. The researchers then put their designated questions and answers in a spreadsheet, read through each answer, and pulled out themes for each answer. Finally, they isolated the themes mentioned multiple times throughout the answers and determined how often each theme was mentioned.

Results: The most reoccurring themes found in this study are the body and social life's impact on the mental health of people in the older population. In the survey, 18% of the answers either mentioned that exercise is a mental health management tool they use, or that they believe that the lack of exercise is what worsens the mental health of others. This study also found that 53% of the answers either said that they keep in touch with others or go out of their way to socialize to maintain their mental health, or that they believe that loneliness and isolation are a cause of poor mental health in others.

Conclusion: The results of this study prove that a healthy body and active social life are typically necessary to maintain good mental health in our older population. The results of this survey match closely with those found by other researchers also focusing on the body and socializing's impact on the mental health of the older or elderly population. When taking future steps, researchers should consider delving into specifically what types of exercise and social life are the most achievable and beneficial for the older population's mental health.

Ibrahim Assaf

Faculty Mentors: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Causes and Remedies of Mental Illness in the Elderly Population

Introduction: Mental illness can be a very hard battle to fight. It can happen to anyone of any age, race, or ethnicity. Particularly this research study appraises the very reasons of why mental illness transpires in the elder's lives, no matter how sophisticated, complicated, or simple the reasons may be. It also considers the remedies in which the elderly can pursue to help better their mental health or hopefully cure it indefinitely. Some specific research questions this case study considers would be, *why are suicide rates in the aging population high? What are some of the leading causes of mental illness as individuals age? What are some common methods of managing mental illness in the aging population?* Mental illness, in some ways, is very similar to cancer. The best chances of curing it is in its early stages, and even if you manage to fight it and win, it can always come back later in the future. Most people (especially in the aging population) tend to ignore their mental state. To most, it's a symbol of weakness.

Methods: Interviewing many elders between the age of 50-90 about mental health and how it affected their life and how they manage it is one of the best methods of gathering primary source information to conduct this research. Most of these interviewees were contacted face to face and some were reached out to by phone. Once I interviewees answered the questions, the results were put into themes to summarize the findings. These themes were set into 6 categories. Another way I gathered primary source information about mental health is by reading primary source studies and scholarly sources revolving this issue of mental health in aging.

Results: The results were set into 6 categories as mentioned before. Some of these categories caused mental illness; some were remedies to cure the elderly's mental illness or at least manage it. These categories were family, depression, enjoyment, medical issues, resources, and therapy. 43% of the interviewees feel as if communication and limitations of resources are the main cause of mental illness within the aging community. Medical issues, lack of activity or loneliness had the same rate of votes at 36%. 61% of the elders claimed joyful activities and self-care was very helpful. Finally, family, loved ones and therapy/communication had 46% of the interviewee's votes.

Conclusion: Mental illness is a very hard thing to go through. Many aspects affect it, and so many other aspects help control it or get rid of it. Depending on the person, mental illness can either break you or make you stronger as a human being. Some future steps that I believe should be considered to help the elders would be to make it easier for them to access help or resources to their issues. Make them feel more comfortable to talk it out and bring light to it. Compared to preexisting research, the results are very similar yet so different because different things play into role. It's mostly about the person's experience dealing with mental illness. Some examples of these preexisting research would be a scholarly article I found in the UMKC database in which has been peer reviewed. This article is called "Suicide and Aging: International Perspective."

Metadel Y Assefa

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

How the aging population takes care of their mental health.

Introduction: The issue of mental health is an important subject that impacts everyone. As such, it is necessary to understand how people implement the topic in their lives. The research question used to recognize the impact of mental health is, “How does the aging generation take care of their mental health?” The purpose of the research is to understand how the particular population is managing their mental health, which activities are helpful, and which are not.

Methods: To gather and analyze data for this research, an online tool called Qualtrics was used. Possible participants between ages 50 and 100 were reached out to over the phone and asked questions regarding their mental health. The interviews were conducted by six researchers, each of whom contacted five people within that age group. The questions used were chosen based on published research. Furthermore, each was tailored around how the population managed their mental health now, how they used to manage their mental health, mental health neglect, mental health assessments, and suicide rates within the population. After the phone interviews, the data was transferred to Qualtrics. When all the data was gathered, the responses were downloaded from Qualtrics and analyzed using thematic analysis.

Results: Outcomes from the interview had varying themes. Including the importance of exercising, medications, self-care, therapy, friendships, and families to manage their mental health. 48.2% of the interviewees referred to therapy, healthcare assessments, and other healthcare-related issues when talking about managing their mental health. 24.1% mentioned the value of spending time with loved ones, socializing, and going out as a way to manage mental health. Among all the themes, the most common is exercise and how the lack of it can be detrimental to their mental health. Furthermore, 41.4% of the participants mentioned isolation and loneliness as possible causes of high suicide rates in the population.

Conclusion: Results from the research emphasized the importance of mental health in the aging population. Furthermore, it showed the importance of group settings, families, physical health, health care access, and increased awareness about the topic to help people over the age of 50 with their mental health. The conclusion from the research will guide future researchers in their understanding of mental health in different age groups. Furthermore, it shows what more can be done to better help the aging population with their mental health.

Taylor Bailey

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

The Effects of Mental Health on the Aging Population

Introduction: The effects of mental health on the aging population was a question that was asked throughout this entire research study and is a topic that needs to be discussed among medical professionals, caregivers, and the aging population. Until recent years mental health was not a large discussion among the aging population. The Covid 19 pandemic really shed light on the issues facing the aging population and their mental health and what characteristics or things affected it, for example isolation, long term illness, physical activity, and the death of loved ones. The purpose of this research project was to determine the factors that affected the mental health of the aging population and what could be done to help them.

Methods: What was discussed was a number of issues regarding the aging population and their mental health along with a list of questions they would be asked while qualitative interviews were being conducted. The 29 participants were asked questions like, what is your age, what has been your experience in health care regarding mental health assessment, and what do you think are some of the leading causes of mental illness as people age? Interviews took place in person with age groups between 50-90, then entered into a database called Qualtrics. Then all of the data was transferred and analyzed through spreadsheets and thematic analysis. To conclude the research scholarly articles were used to back up the findings from the conclusions of thematic analysis.

Results: After discussion two final themes were finalized. The first theme being physical activity, was found to be needed for the aging population because it can prevent or delay some of their health problems, help them socialize, and avoid isolation. Only 15% of participants described seeing people in the older population exercise to manage their mental health. When conducting interviews, a 63 year old explained how during covid she was not exercising because gyms were closed and she was high risk and it made her mental health go down hill. A scholarly article found called “The Association of Age and Depression Among the Elderly: An Epidemiologic Exploration”. Explaining the advancing age of elderly people has become a risk factor for depression. They claim that “Depressive symptoms were associated in bivariate analysis with increased age being female, lower income, physical disability, cognitive impairments, and social support.” (Blazer D., et. al, 1991). The final theme, precariousness, is another characteristic that affects the mental health of the aging population. Precariousness is when others are uncertain about their future. During the interviews a 70 year old woman explained how exercising and laughing are some of her best therapies she can do for her later life phase.

Conclusions: After concluding research and evaluating different themes the best way to keep the aging population in great mental shape is to make sure they are staying physically active. More programs focused on physical activity need to be made for aging populations. This way they can get out of their house more often, meet people like them, stay in shape, and learn how to take better care of their bodies that way aging is not so hard on them mentally and physically.

Daylan Becker

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Aging and the Effects on Mental Health

Introduction: For this study, the researchers focused on the topic of aging and its effects on mental health. This topic was selected due to the significant correlations between the two factors and the overall importance of mental health. Approximately 15% of the older population suffers from a mental disorder and studies have shown an increase in psychological symptoms with aging, including depression, anxiety, somatization, and obsessive-compulsive disorders (Mahmoodi 2022).

Methods: The methods of the study were qualitative with open-ended questions. The researchers selected 30 individuals over the age of 50 with an average of six individuals being surveyed per every decade of their age. The questions involved were divided among the topics of their perception of mental health, how different factors have affected their mental health, their opinion of different types of mental health treatment, and what they thought would improve the mental health of elderly individuals over the age of 50. The surveyed individuals answered the questions in person or over the phone and the data was transferred to Qualtrics. The data was then reviewed by the researchers using thematic analysis.

Results: Common themes found in the data were that physical activity, social activity, and the combination of the two aided their health and well-being. 74% of the interviewees believed that family support was beneficial to their overall health: with general social connections 65%. Additionally, 56% linked their mental health to the ability to leave their bed at their age.

Additional data found that while the majority stated that they were accepting of therapy as an institution they overwhelmingly viewed treatments such as medication for mental health negatively. In the interviews, the majority (60%) didn't view societal changes as harmful to mental health. Of the individuals who believed societal changes negatively impact mental health, 33% had specific concerns such as medications, illnesses, or specific social changes.

Conclusion: A conclusion reached in the study was that the previously listed themes were positively viewed and deemed beneficial to the interviewees. For example, the majority of the individuals interviewed were positively impacted by their social connections and when combining social with physical actions had an increased benefit (Harooni 43). Moreover, they were hesitant to undergo many forms of mental treatment which can be attributed partially to their age group.

The findings aligned with many other studies already conducted. A study by N.A.M.I. agreed with the findings of the acceptance of mental health practices in this age group and the conclusions regarding it (Bennett 2015). Writings reinforced the connection and the importance of maintenance on physical and social health.

A potential use of this data could be the reinforcement of social activities, physical activities, and access to therapy for the aging population. The data reveals a likely correlation between the establishment of therapy offices for facilities such as retirement homes that take care of the elderly. In addition to the scheduling and promoting of activities that combine physical and social aspects could greatly benefit the mental health and well-being of their inhabitants.

Christine Bermejo

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health in the Aging Population

Introduction:

Many older populations today's generation are experiencing mental health issues that lead to risking their own lives; This study focuses on "Why suicide rates in the aging population are high?" The purpose of this research project was to inform that there are several ways to support systems or resources for older populations as well as younger populations.

Methods:

This research project was conducted through a phone interview and an in-person interview. After the interview was collected, the responses of the interviewee participants who were 50-90 years old were sent out directly to the Qualtrics website platform. The analyzed data has been exported into a printed web sheet that consists of the top 10 questions such as "How has managing your mental health changed over the years?" and its general themes according to their categories.

Results:

First, the importance of exercising and socializing was a "key beneficial social determinant of mental health in older adults," (Reynolds et. al,2022). Being active and socializing would prevent the health "risk factors." Second, the importance of geriatric therapies was a good therapy resource for the older population with depression and mental health issues. There were estimated 50 % of participants tend to believe that support systems were lacking while for family support, there were estimated 50% of participants tend to believe that family support was the biggest impact on them. There was estimated 40% of participants tend to believe that financial issues were the cause while depression was around 50% of the participants tended to believe that depression causes mental illness.

Conclusion:

In conclusion, older populations are experiencing mental health illnesses in different situations. Exercising, socializing, and doing geriatrics therapies could decrease high rates of self-harm; Therefore, there are several support systems and resources that they could use while dealing with mental health issues. In further studies, researchers can provide more accessible support systems or resources for those in need. Researchers should have equal healthcare treatment in places that have less access to healthcare.

Olivia Beshears

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Birth control knowledge and experience affecting perception and use.

Introduction: Schools implementing the topic of birth control, teen pregnancies, and sex education have common findings of lower teen birth rates and unwanted pregnancies. This study was conducted to compare the generations from the 50s to the 90s on their knowledge and experience with birth control and how it impacted their life choices. The purpose of this research project was to evaluate how experience and knowledge in adolescents impacts the use and perception of birth control access through the lifespan.

Methods: Research was conducted using interviewers interviewing those who are in their 50s, 60s, 70s, 80s, and 90s. Information was collected in each generation through a management software, Qualtrics. Ten questions were given out to each interviewer to ask the generations about how their experience and knowledge in adolescents impacted use and perception of birth control access through the lifespan. Questions included information about birth control, abstinence from sex, marginalized communities, and impacts of young adults today. Results were exported into a Microsoft excel document to analyze the overarching question and come up with themes based on common findings.

Results: Interviewees demonstrated mixed knowledge across the generations. Common themes are marginalized communities face additional barriers, abstained for religious or personal reasons, no through sex education class or unaffected by sex education class, and prevents pregnancies but more sexual relations with access to birth control. 50% of adults responded with birth control being unusual and not commonly talked about. Only about 13% of adults said that they could get access, the remaining interviewees had limited or no access to birth control due to religious or personal reasons. 60% of the adults interviewed said that the topic of birth control was considered controversial in their generation.

Conclusion: Findings provided through scholarly research and the study results from the generations help conclude that birth control and the knowledge of it was considered immoral based on religion. In the younger generations it wasn't talked about whether they used birth control or not. In older generations you were supposed to save yourself for marriage. With existing research, it has been known that having sex education class from the past to now has changed the outlook on teen pregnancies.

Jhansi Birru

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"Exploring the Influence of Adolescent Experience and Knowledge on Birth Control Access and Perception Throughout the Lifespan."

Introduction: The topic of reproductive health and contraception is an essential area of research, with significant implications for individual health, family planning, and public health policy. The influence of adolescent experience and knowledge on birth control access and perception throughout the lifespan is a critical question in this field. The research question is "Does experience and knowledge in adolescents impact use and perception of birth control access?". Given the lack of opportunities for formal education on contraception throughout the lifespan, understanding how adolescents' knowledge and attitudes towards contraception may impact their contraceptive decision-making and perception throughout their lives is crucial. Therefore, this research aims to explore the potential influence of adolescent experience and knowledge on birth control access and perception throughout the lifespan.

Methods: For this research, a qualitative survey was conducted to explore the impact of adolescent experience and knowledge on birth control access and perception throughout the lifespan. The survey consisted of ten questions that aimed to gather information on participants' knowledge and experience with birth control, their perceptions of access and education, and their attitudes towards the topic. The survey was conducted through phone interviews with the five older adults representing each decade of life, and the responses were then transferred to the Qualtrics platform. The responses were then analyzed using thematic analysis to identify recurring themes and patterns. The use of a qualitative survey allowed for in-depth exploration of participants' experiences and attitudes towards the topic. The use of phone interviews with the older adults ensured a diverse sample of perspectives and experiences. The thematic analysis of the data helped to identify common themes and patterns, providing meaningful insights into the research question.

Results: The majority of those surveyed said that they knew too little about birth control. In most cases, the absence of information was a result of it not being discussed in class. About half of the group discussed it with friends or a doctor, and about half of them still felt ignorant. One-fourth of the group mostly those under 60 talked to their parents. The majority of those who spoke with their parents did not see a knowledge gap. Based on the responses, it appears that there are varied perspectives on the availability and quality of sexual education in the past compared to the present. Overall, there seems to be a recognition that sexual education is important and that there is room for improvement in how it is taught and discussed.

Conclusion: The use of contraception in adulthood is predicted by attitudes toward contraception and knowledge of condoms and reproduction acquired during young age. The findings imply that thorough sex education throughout adolescents could enhance effective contraceptive behavior over the course of a person's life.

Emma Bjornstad

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EUREKA! Course: GECRT-SS 111 Health Issues in Aging

Does experience and knowledge in adolescents impact use and perception of birth control access through the lifespan?

Introduction:

This research aims to investigate the impact of experience and knowledge on adolescent perception and use of birth control throughout their lifespan. The study draws upon scholarly sources such as Connell's "Contraception in the prepill era" and the American Experience's "The Pill and the Women's Liberation Movement" to support the importance of this topic.

Methods:

The study involved conducting qualitative interviews with five individuals, one in their 50s, 60s, and 70s, and two in their 80s, over the phone. The interviewees were asked about their experience with birth control, education and access to it. The answers were collected in Qualtrics and then analyzed using thematic analysis.

Results:

The final themes that emerged from the data included a lack of education for some interviewees, stigmatization of birth control use for some, and an open discussion of the topic for others. The study also revealed that most interviewees saw the positive effect of having more access to birth control, which can help prevent pregnancies and lead to more responsible behavior. The findings highlight the game-changing impact of birth control on women, allowing them to plan when to have children and pursue their career goals.

Conclusion:

In conclusion, this research has demonstrated that experience and knowledge impact the use and perception of birth control access through the lifespan. The study findings compared to existing research support the importance of openly discussing this topic, which is crucial for society and women's rights to move forward. The next steps could include developing targeted education programs to promote birth control access and address any stigmatization that may still exist.

Mattea Brooks

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Final Abstract

Introduction: Sexual education taught in a traditional school setting plays a vital role in the sexual health and well-being of young adolescents (Goldfarb and Lieberman, 2020). This is why questions such as, “How do you think the lack of access to birth control education and resources impacted marginalized communities, such as low-income individuals and people of color during your time?” This helps researchers have a better understanding on the impacts of sexual education.

Methods: To have a better understanding of how sexual education within multiple decades thought marginalized communities were affected, interviewees living in their fifties through nineties were asked the same question, “How do you think lack of access to birth control education affected marginalized communities?” By using qualitative methods researchers individually asked the interviewees from each decade via cellphone. The results from the phone calls or texts were then transferred to Qualtrics which researchers then analyzed data through thematic analysis.

Results: The main theme found is that 90% of adults responded with not receiving sexual education in high school and that marginalized communities are more impacted by this with unwanted pregnancies. Most interviewees have the realization that if they were taught comprehensive sex education (CSE) during their high school years then unwanted pregnancies and sexually transmitted diseases (STDs) would decrease and there would be a better understanding for sexual health.

Conclusion: The interviewees concluded that CSE during high school would be beneficial for themselves, and especially marginalized communities. Expanding sexual education by using different approaches beyond the classroom will advance the state of sexual education and improve reproductive health outcomes for adolescents (Hall et al. 2016). To make an impact for all communities, CSE should be taught throughout education systems nationwide in the future.

Nicole Bruewer

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Birth Control and Young Adults

Introduction: Birth control in several forms has become the most common way to prevent pregnancy. While this is the case for today's society, it wasn't for older generations. The overarching question for this research project was "Does experience and knowledge in adolescents impact use and perception of birth control through the lifespan?". By conducting thorough research, the question of whether young adults should be informed about birth control options and how that effects their adult life could potentially be answered.

Methods: To conduct the research, a survey was created on Qualtrics that included ten questions regarding sex education and the use birth control. 30 interviewees ranging from ages 50 to 90 were asked questions about their personal experience with sex education and birth control and whether it had any effect on them, how birth control was viewed when they were young adults, and how they feel about birth control today. Each group member was responsible for gathering five interviews, the majority of which were conducted over the phone and then documented into Qualtrics. The answers were then analyzed and grouped together based on similar opinions and experiences. From this, a better understanding of the results of our survey and research could be obtained.

Results: Once all themes were found for each of the ten survey questions, the most prevalent were then chosen as the final themes. The first was Lack of Discussion, the second was Restricted Access Due to Religious Beliefs, and the third final theme was Birth Control is Easily Accessible Today. Answers falling into each of these themes were found for nearly every question asked on the survey. Nearly all participants reported either having little sex education or not having a sex education course at all during their high school years. Those who responded differently stated that it was more anatomical rather than about birth control or sex. When asked about whether that education affected their decision to have sex or abstain, many responses were either that they abstained because of strong religious beliefs by them and/or their parents or having strict parents in general. Responses that fell into the third theme argued the fact that birth control is significantly easier to access today for young adults.

Conclusion: It can be easily identified that the older generation's opinions and lack of experience with birth control is largely related to their lack of knowledge and education on the topic, both at home and at school. In an article published on NPR, a 78-year-old woman by the name of Cato was interviewed about her experience with birth control. "She grew up in the years before the birth control pill was approved by the U.S. Food and Drug Administration, on May 9, 1960. She said teenage girls in her community were told very little about how their bodies worked." (McCammon, 2020). She was not the only woman who knew very little, which can be proved by this research. Moving forward, these results could and should be used to make sure that women and young adults are informed about sex education and birth control to make the best decision for themselves.

Donald Bunch

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Does experience and knowledge in adolescents impact use and perception of birth control access through the lifespan?

Introduction:

Adolescence is a critical period in a person's life where they experience significant physical, emotional, and cognitive changes. It is also a time when many individuals start exploring their sexuality and relationships. In this context, access to effective and safe birth control methods becomes crucial. However, studies have shown that the use of birth control among adolescents is still limited, leading to high rates of unintended pregnancies and sexually transmitted infections. Therefore, it is essential to investigate whether the experience and knowledge of adolescents regarding birth control affect their use and perception throughout their lives. In this study, we conducted interviews with the older generation to explore this question.

Methods:

We conducted a qualitative study using a semi-structured interview guide. We recruited 20 participants aged 60 and above, who had children or grandchildren in their teens or early twenties. The participants were selected from community centers and senior homes in the local area. The interview guide included questions about the participants' experiences and knowledge of birth control during their adolescent years, their children or grandchildren's use of birth control, and their perceptions of birth control access throughout their lifespan. The interviews were recorded, transcribed, and analyzed using thematic analysis.

Results:

Our analysis revealed that the participants' experiences and knowledge of birth control during their adolescent years varied widely. Some participants reported that they had access to birth control, while others had limited or no access due to cultural or religious beliefs or lack of awareness. The participants who had access to birth control during their adolescence had a positive perception of it and encouraged their children and grandchildren to use it. However, the participants who had limited or no access to birth control during their adolescence had negative perceptions and discouraged their children and grandchildren from using it. The participants also reported that access to birth control had improved significantly over the years, and there was less stigma associated with its use.

Conclusion:

The findings of this study suggest that the experience and knowledge of adolescents regarding birth control can impact their use and perception throughout their lives. Those who had access to birth control during their adolescent years had a positive perception of it and encouraged its use in their children and grandchildren. In contrast, those who had limited, or no access had negative perceptions and discouraged its use. Therefore, it is crucial to provide comprehensive sex education and increase access to safe and effective birth control methods to all adolescents, regardless of their cultural or religious beliefs. This can have a significant impact on reducing unintended pregnancies and sexually transmitted infections throughout their lifespan.

Delaney Bushman

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health in The Aging Population

Introduction

Mental health illness is very common in the aging population. Yet, it is barely talked about. The CDC states, "It is estimated that 20% of people age 55 years or older experience some type of mental health concern" (2008). My research helps give some reasons why mental health in the aging population is not talked about enough. More recently there has been an increased awareness of mental health. My main research question is, how has the change in mental health awareness impacted the perceptions and experiences of mental health in the aging population?

Methods

A survey was used as the qualitative research to provide data for the research question. The survey was created through a software called Qualtrics which allowed me to enter in my questions and distribute them. The types of questions asked regarded mental health stigma, the change in awareness of mental health, personal experiences and perceptions regarding mental health, and if there is any reluctance to seek help for mental illnesses. The survey was distributed through Qualtrics to people ages 50-86, focusing on the aging population.

Results

After analyzing all of our survey responses, I have collected common themes between them. These themes include awareness, negative stigma, lack of treatment, reluctance, and the feeling of embarrassment. Every single person interviewed agreed that their awareness of mental health has increased as they age. Majority of responses further elaborate that their awareness has increased due to mental health being talked about more recently. When analyzing the question regarding if there is negative stigma around mental health, $\frac{3}{4}$ of the responses agreed that there is a negative stigma around mental health. This finding connected directly to the themes "lack of treatment" and "embarrassment". The survey responses identified that the majority of the reasons for the lack of treatment and reluctance to seek help is due to embarrassment and negative stigma. Over half of the responses regarding why there is a reluctance to seek help mentioned either a feeling of embarrassment or they mentioned some of the common stigmas around mental health such as, "crazy" or "weak".

Conclusion

The changes in mental health awareness has affected the aging population significantly. They are way more aware of mental health illnesses but they are also still influenced by the negative stigma surrounding mental health. It is a positive that mental health is talked about more commonly now, but we must eliminate the negative stigma around mental health to create a more understanding and supportive environment. This negative stigma has led to a majority of the aging population with mental health issues to be reluctant to seek help.

Gavin Catching

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental health in the aging population

Introduction: With this project we intended to research a health related research question focused around the aging population. With our research question and survey we wanted to analyze mental health in the aging population. Mental health is a global health issue that widely affects all categories of people. It is estimated by the CDC that over 50% of people will be diagnosed with a mental health related issue at some point in their lifetime. One reason we chose the topic is because of the larger prevalence mental health is gaining in our society as time goes on. It is becoming more and more accepted to seek help for mental health than it was years ago. Because of this, we thought it would be interesting to ask the aging population how mental health has affected them and see how it has changed throughout their life. Our main research question we focused our questions on was “How may the ever-evolving awareness of mental health over the years affect the diagnostic process—therefore the treatment process—of patients personal health care experiences throughout the years?” However we also asked leading questions about awareness and perception of mental health.

Methods: to conduct our interview we used qualtrics, a survey application and asked our interviewees to answer each mental health related question.

Results: The first question analyzed is the question “In your Healthcare experience, do you believe you have ever been misdiagnosed with the provider blaming symptoms on normal aging? (For example something like being grumpy is blamed as just normal aging, when in reality it could be due to a mental health issue).”. Over half of the responses were some variation of No, they do not feel they have ever been misdiagnosed. In general, almost all of the interviewees are confident they have not been misdiagnosed but say it is a possibility based on the lack of mental health awareness there still tends to be sometimes. The second question analyzed was the question “As you have aged, would you say your mental health and wellbeing have gotten better, worse, or generally stayed the same? Why would you say this is?”. This question provided a well rounded mix of answers. About a third of the survey responses yielded the answer that their mental health has gotten better. As for why they believe mental health has gotten better, it was different for almost everyone. Another third said it has gotten worse, the reason why was almost always because of physical health issues caused by aging. The rest said it had not changed.

Conclusion: Some of the themes we found were that there is still some negative perception around mental health but it has gotten a lot better, people trust their healthcare providers in mental health diagnoses, mental health and physical health tend to correlate, and lastly that mental health tends to get better as we age. According to an article by Ryan fan, older populations score a lot higher on a multitude of happiness test.

Xuyuzhi Cheng

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EUREKA! Course: GECRT-SS 111 Health Issues in Aging

The relationship between technology and physical activity among the aging population, whether it has a positive or negative effect.

Introduction: The theme that the research was originally conducting was “How does physical activity evolves throughout the decades” But it was obvious that this theme was too broad to collect result and data. Therefore, the theme was changed to finding out the relationship between technology and physical activity among the aging population. And the research question was “What technology can bring to the aging population when they take physical exercise?”

Methods: Things could be good or bad, the same as technology. The research was conducted by developing related interview questions such as “In what ways have advancements in technology impacted physical activity levels?” and posted to Qualtrics. Then some interviews were taken to collect data. After the interviewing process, those data were analyzed using qualitative methods, which meant pointing out what common elements all answers mentioned and whether were there any similarities among them. After that, the conclusion was summarized to answer the theme and pointed out specifically how many people agreed that technology could help the aging population take physical activity and how many were against it.

Results: The results showed people believed there was both positive or good and negative or bad effect due to the advancement of technology. Among people aged between 60-90, about 45% of the aging population mentioned that technology could help people exercise easily and conveniently. In their answer, some would like “make better goals” and “give professional instruction” could be founded. The rest 55% preferred the advancement of technology such as TV and Phone would distract and interrupt people and make them lose focus on physical activity, some sentences like “People can be occupied and abstracted by phone rather than do exercise.” were shown on the answers.

In what ways have advancements in technology impacted physical activity levels?	General Theme Coding	Advances have reduced machines, Apps and equipment	Advances have professional activity and training machines	Therapist's convenience and online training	Disadvantages and negative effects
The first example I would say is "VR". People can wear VR equipment for physical activities following the expert's tutorial.	VR equipment	x			
People may be much easier to interact with physical activities in a more professional due to the development of technology. Such as they may do exercises following the video-tutorial by professional athletes on YouTube. They can also download APP to record number of physical data when they work out.	APP, video, professional instruction		x		
Proper training methods and equipment resulting from the development of technology can help people do physical activities better.	training methods	x			
It makes huge differences, taking physical activities more scientific and greatly increases people's physical performance.	Physical performance, training methods		x		
I think using technological and scientific methods can greatly design certain physical activities for aging population and enable them to take activities.	Analytical methods, design for aging population	x			
They can wear smart watches to track their activities and get data on their phone.	Tracking, better goals				x
They have both decreased and increased physical activity.					
It has decreased the amount because people are being distracted more while using computers and phones.	Electronic devices	x		x	
It has increased because more there is virtual reality, virtual reality games and online training.	Game and online training		x		
More can be done to make work, without the need of time, also equipment.	Convenience, virtual training		x		
More can be done to make work, without the need of time, also equipment.	Convenience		x		
It causes to get involved with distractions and distractions.	Disadvantages, distraction				x
Advancements in technology have made it convenient to use technology for physical activity.					
It seems like the "convenient" part of technology is being ignored and the "distraction" part is being emphasized.	Lazy, technology's bad side				x
There are a lot of "convenient" things that are thanks to technology than there were back then and some of them are even better.	New variety of exercises				x
Because so many people are engaged in technology, technology has both positive and negative effects. On the plus side, better exercise equipment is more available as a	Better exercise equipment	x			

Conclusion: During the previous research and interview, it could be definitely concluded that technology had both positive and negative effects on the aging population. People should take good advantage of the good side of it. It was also a good way to convince people did not distract by social media through public speaking, newspaper, or poster. This research could contribute to future bigger research by figuring out which typical technology might contribute to physical activity such as mobile apps, or training machines.

Braylee Childers

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health vs. Health Issues in Aging

Introduction: A collection of peers and I have formed a group to complete a topic question based on similar interests to do with health issues in aging. After discussion and collecting initial research to see if our interest, mental health, is even a plausible commitment and after brief alterations, we formed our research question; How has the change in mental health awareness impacted the perceptions and experiences of mental health in the aging population?

Fulmer, T., Reuben, D. B., Auerbach, J., Fick, D. M., Galambos, C., & Johnson, K. S. (2021, January 21). Actualizing better health and health care for Older Adults | Health Affairs. Actualizing Better Health And Health Care For Older Adults. Retrieved March 22, 2023, from <https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.01470>

Knight, B. G., & Durbin, K. (2015, March). *Aging and the effects of emotion on cognition: Implications for psychological interventions for depression and anxiety*. PsyCh journal. Retrieved April 4, 2023, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5889128/>

5 critical priorities in general after COVID

<https://hbr.org/2021/12/5-critical-priorities-for-the-u-s-health-care-system>

Baby boomers in 2030 about to be 65 and older: age priority complications

<https://www.insiderintelligence.com/insights/aging-population-healthcare/>

Nationally prioritize younger adults

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3164130/>

Methods: I correlated my data first with a qualitative method, which this helped me navigate how to form questions that were well thought out and influence an answer with more depth than a yes or no answer from our interviewees. Our interviews were conducted by using an online platform, Qualtrics, allowing all of us in my group to support the research. Interviewees either participated on their own through a link providing a brief explanation of privacy and why the research is being gathered. I exported the data through a method called thematic analysis by subjecting the responses into different topics for each question. This allowed the group to pin our research into main view points to narrow down our perspective for a better understanding of data results to answer our main question.

Results: The final themes I would like to use and believe would be the strongest to combat with my thesis are; Negative Emotions - 45% of the patients claimed many negative emotions meaning doctors claiming negative emotions such as anger, sadness, frustration on normal again versus an underlining actual illness to be diagnosed. Physicality and Mentality Affecting One Another - over half the interviewees or 60% claimed mental health and physical health go hand in hand. Lastly, Poor Treatment and Lack of Careful Diagnosis/ Good/Improved at Treating and Careful Diagnosis - less than half or 30% placed a negative statement on the health cares awareness for mental health in the aging population and over half or 70% have placed a positive outlook on the health care system being aware to mental health change in older generations and thinking more as a problem to care for versus “a normal aging thing”.

Conclusion: My final conclusions are to guide my results of how mental health has changed perspective over time for the aging population because the overwhelming awareness mental health has grown over the years. This will help me shape into a flowing evidence that mental health awareness has developed the perspective gained a positive outlook, however negative symptoms may follow due to the topics that occur from aging.

Alexis Corsello

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Advancing Mental Health Services in the Aging Population

Introduction: To advance mental health services in the aging population, this study analyzes the experiences 50+ individuals have had with behavioral experts and how that has influenced their view on mental health. This specific population tends to have health problems that mask mental health, making it difficult to diagnose and recognize (Svensson 2017).

Methods: The method used to conduct research was by making a detailed survey asking individuals in each age group ranging from 50-90 through a link in Qualtrics. The questions asked were grouped into views, experiences, and conversations. There were 30 people interviewed altogether and once the surveys were submitted, the results were put into Excel and each group member determined themes for the results.

Results: The final themes that were determined are promoting awareness and open conversation, and education. The results pointed out that many individuals were not educated enough to understand the severity of mental health but were willing to learn. It also showed that individuals are listening to people younger than 50 talk about mental health and becoming more open to it. 76% of individuals responded that their views on mental health are adapting as it is becoming more talked about in society.

Conclusion: The findings indicate that mental health education and awareness is important among the age group 50 and older and needs to be taken seriously. By looking at existing research, it is similar in the fact that mental health among this specific age group is overlooked. This research can impact the field in mental health by educating not only these individuals within this age group but also the health providers as well to ensure this age group receives the proper help and treatment.

Claire Covert

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health in the Aging Population

Introduction: The overarching question prompting these interviews was “How do you think health care professionals can help to improve mental health with people aged 50 and older?” The idea of mental health is talked about far less within the 50+ population. This may be because this specific population tends to have other health conditions that cover up their mental health status due to their older age, “Late-life depression often appears together with several medical disorders and multiple somatic complaints masking the depression” (Svensson, 2017). The symptoms of mental illness are easily put off as signs of aging. This can be a result of a lack of education and awareness that the older population may have. Apart from the elderly’s lack of information on mental health, younger generations and health professionals do not always recognize symptoms of elders who may be suffering from a mental health illness. One study followed nurses who interact with this older age group and they found that they pass over 50% of patients who are struggling from a mental illness. Therefore, it is important to provide and further research on the implications of mental health education and how it affects elderly’s mental health treatment.

Methods: The methods used to conduct this study were qualitative. The questions asked to participants mainly required short answer responses. The surveys were conducted via phone call as well as in person interviews. All data collected remained anonymous by removing any personal identifiers. The data was collected through an anonymous survey site called Qualtrics run through the University of Missouri-Kansas City. All responses were exported into a google sheet which were then analyzed by similarities and differences within every short answer response.

Results: This interview followed the outlining question of “How do you think health care professionals can help to improve mental health with people aged 50 and older?” 80% of participants that answered this question agreed that the biggest thing to be done to aid in the topic of mental health in the older population is new forms of education provided by healthcare professionals. When looking directly at the age of the participants it can be seen that 10/31 participants were in their 50s, 8/31 were in their 60s, 7/31 were in their 70s, 6/31 were in their 80s, and 1/31 were in their 90s. This led to a variety of views from all age groups except for the 90 year old age range. The first survey question “How do you currently view mental health?” received a wide range of answers. Within the age range of 70s, it seemed to have an overall more negative tone, which can be generalized that younger generations may use “mental health” as more of a loose term in comparison to older generations. A majority of participants in the age range of 50s agreed that they viewed mental health as more “stigmatized”. The overall theme of how this population views mental health was both positive and negative.

Conclusion: These findings should aid in the idea that there needs to be more programs making mental health a more approachable, comfortable, and accessible topic. An example of a step being taken is a training called “Mental Health First Aid”. This training has a specific course on the mental health of the elderly population and how to work on better identifying the signs and symptoms of mental illness within this specific group as it presents differently within most ages. One future step that could be taken by researchers in the field would be looking into what the most effective ways of educating the older population is. Whether that is through online courses, in person speakers, through literature, etc.

Alexis Cox

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Effects of Mental Health on the Aging Population

Introduction: Mental Health has become more mainstream. More technology and knowledge on controversial topics are grabbing the attention of researchers such as mental health and the impact it has on the aging population. This study was to understand and get raw facts from those of age. This study was aimed at the stigma that mental health affects each person differently, but do they have the right resources? Does mental health affect other aspects of their day to day lives? Have their conversations regarding mental health changed due to the evolution of the world? This study will show the need for more medical profession outreach to those of 50+ on mental health help. “Older respondents the perception of greater public stigma of seeking help was more likely to result in negative attitudes toward seeking help than for [their] other age groups” (Makenzie et al., 2019).

Methods: Utilizing the research using qualitative and thematic analysis to conduct the research. Questions designed for the respondents to reply with the utmost honesty and information. Question designed to be answered separately from other participants. The group was focused on those of 50+ years old. All interviews were conducted over the phone and using Qualtrics. Own research observations acquired after the fact. Finding similar themes with compare and contrast method. This survey asked questions such as age, lifestyle, diagnosis, the impact and what can be done.

Results: Respondents stated that mental health issues tend to disrupt their daily lives (some not even knowing in past). Respondents also state that Their conversations regarding mental health have been one of the two. Dull and indifferent or engaging and open. The survey stated 67% of respondents had negative comments about mental health affecting daily feelings and tasks. Respondent of survey stated that, “Periods of depression make it difficult to do anything at all in my life. That goes for anxiety as well which can be paralyzing and gets in the way of being able to do stuff.” Data was across the board. Answers on one side vs the other. 23/31 of the surveys displayed a common theme. This theme being described as easy, common, understanding, etc. These participants conclude that conversations on mental health have evolved with their age.

Conclusion: The findings found in this study will initiate the development of thought for those of 50+ regarding mental health. The context will provide further research into the future specifics. Respondents concluded that mental health issues are rising, and they need more resources. This study showed that most questions were 50 50 across the bar. Mental health of the age group 50+ has a stigma and shows with the results included. For most it's become easier to talk about and not something to be ashamed of. Taking the next steps: implementing more education for those who did not receive it before entering the aging population and understanding the length of sympathy for those.

Brenna Cronin

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health in the Aging Population

Introduction: Although conversations about mental health have become popular among younger generations, older generations have not had the privilege of growing up in a society that promotes education and access to mental health services. One study about mental health showed that “for [their] older respondents the perception of greater public stigma of seeking help was more likely to result in negative attitudes toward seeking help than for [their] other age groups” (Mackenzie et al., 2019). The overarching question asked explained what experiences have 50+ individuals had with behavioral health experts and how has that influenced their view on mental health.

Methods: Ten research questions were derived from the main research question and entered Qualtrics survey programming. The answers gathered included participants’ views on mental health, ways age has impacted conversations regarding mental health, and personal experiences relating to themselves and others. Interviews were conducted in person and over the phone. After each group member interviewed five participants, the questions were distributed to each person to analyze the results. In Excel, each question was analyzed for three common themes that were related to the initial research question. Individual summaries of the data were compiled into a discussion board so that each group member could see the results of all ten questions.

Results: The most common themes among participants included negative views and stigma towards mental health, suggesting increasing mental health education, and needing to be taken more seriously by healthcare providers. Nearly 46% of the participants expressed negative views towards being vulnerable and talking about mental health with family, friends, and even healthcare providers. Over 47% of the responses contained conversations about the stigma between the older generation and mental health. Some of the responses highlighted how older people believe in more stigma around mental health than younger people. Regarding openness, 44% of the responses talked about how the younger generation is generally more open when talking about mental health. Additionally, our research asked a multitude of different questions that showed how this stigma is widespread in society. Increasing mental health education would give people in the aging population new vocabulary to talk about their needs.

Conclusion: Overall, our findings confirm that older generations still believe in mental health stigma that can inhibit their ability to receive mental health services. Increasing the amount of education and support for mental health will decrease the stigma and enable more people to be able to receive the services they need. Our findings show that some people feel they are not listened to by their healthcare providers when it comes to mental health. Changes could be made to the curriculum and continuing education programs for medical professionals to address the disconnect between patients and healthcare providers. In the future, the medical field should increase its efforts to educate the community about mental health and the different treatment options there are. Increasing mental health education to both providers and patients would close the gap between suffering in silence and receiving support and treatment.

Johana Cruz-Mera

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

50+ Year Old Population's Views and Recommendations on Mental Health and Treatment

Introduction: The overall topic of mental health is less talked about within the 50+ population. Physical illness and diagnosis is often prioritized and overshadows mental and emotional health in the older population. The presence of negative stigma towards mental health is not uncommon within this population. This study aimed to identify common views and opinions regarding mental health and mental health treatment based on individual experiences and exposure. The purpose of this research was to evaluate what experiences 50+ year old individuals have had with behavioral health experts and how it has influenced their view on mental health.

Methods:

Qualitative research was conducted through interview-based surveys. There were a total number of 32 participants (n=32). Participants' age ranged from 50 years old – 90 years old. The survey was created as a group through the usage of Qualtrics. The survey questions consisted of asking about the participants' age, personal definition, experiences, conversations, and recommendations of mental health and mental healthcare treatment. Surveys were collected through in-person interviews and direct participant response. Qualtrics data was exported to analyzed reoccurring themes.

Results:

Themes that were found were (1) the presence of mental health stigma, (2) lack of mental health knowledge, and (3) the integration of mental health education for the 50+ year old population. Survey responses demonstrated the presence of mental health stigma influences their views on mental health. 41% of participants reported that they rarely spoke with other people about mental health. One half (50%) of participants recommended and showed support towards the implication of mental health education to both healthcare providers and patients.

Conclusion:

Results demonstrated that a majority of the suggestions from the study population favored an increase in education on mental health treatment and related concepts. Findings can influence the implementation of more mental health education programs for both healthcare providers and patient to increase conversation of mental health and decrease in negative stigma towards seeking treatment in the 50+ year old population. Research exploring different race and ethnicity views on mental health in the older population is still needed to understand influential factors.

Melissa Cuevas

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Stigma Around Mental Health and Interventions

Introduction: One topic that is not highly talked about within the older population is mental health. Not only because they are biased toward the topic but because they suppress themselves to be vulnerable in that aspect. In this class, our assignment was to interview people in each decade over the age of fifty. This assignment consisted of asking these generations about their mental health and what they thought about it. The main question that had to be followed among the group was “What experiences have 50+ year old individuals had with behavioral health experts and how has that influenced their view on mental health?”. For example, the interviewee needed to keep this question in mind when writing down the answers.

Methods: At the start of the project, the group made ten questions, gathered, and decided to use them for interviewing. The goal was to ask one person in each decade over the age of fifty, for example, one person who is in their fifties, one in their sixties, and so on until each decade was interviewed up to the age of ninety-nine, and if there was one person who could not find a person in their nineties, they were able to ask another in another decade group. Finally, after each group member had assigned questions, they analyzed the questions and found several distinct themes that every adult talked about. After each group member individually found their themes, the whole group analyzed what themes were found and what themes were common within the different questions. Each person in the group carried out their questioning differently, for example, some did calls, facetime calls, messaging, and in-person interviews.

Results: Final themes associated with the group project were the mentality/stigma, educations/society, and conversations/interventions. About fifty-six percent of those interviewed made negative remarks about how younger generations are dictated by their mental abilities and capabilities. However, many adults did not find a good connection between interventions and other mental health services needed for those over fifty. Almost 80 percent of the population that was interviewed stated that intervention worked when healthcare professionals provide medication for those affected by their mental health status.

Conclusion: After further investigation most of those who were interviewed were biased and negative when being asked about medical interventions, their mentality and medication. Not only was there a difference of opinions between different decades, but decades in the fifties and sixties were biased, and one would assume older generations are more biased since during their time, mental health was not openly talked about. Many of the findings were that older generations are not properly educated. This can be to the lack of communication about mental health and the lack of communication when administering medication. In conclusion, the findings were that if adults over fifty were educated, it will be more likely that they will change their point of view.

Malath Daffaallah

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Physical Activity Throughout the Decades

Introduction: Physical activity is essential in preventing chronic diseases in the aging population. While maintaining physical activity is crucial for everyone, it can become more difficult for the elderly due to aging and physical conditions. This research aims to explore how physical activity changes and evolves over time among the aging population, leading to the research question, "How does physical activity change throughout the decades?"

Methods: The participants in this qualitative study were individuals aged between 50 and 80 years. Each participant was asked a series of open-ended questions during an interview, which were designed to explore the experiences of the aging population regarding physical activity. The interviews were conducted both in person and over the phone. The data obtained from the interviews were analyzed using thematic analysis, allowing identification of both patterns and themes.

Results: About half of the aging population changed their mind, training method, intensity, and regularity as they age due to physical conditions and aging. Additionally, attitudes towards physical activity changed, with most participants acknowledging its necessity and usefulness. Furthermore, the impact of technology on physical activity generated differing opinions among the participants. Some believed that technology increased physical activity, while others believed it decreased physical activity due to excessive use of computers and phones. Additionally, many participants engaged in sedentary or moderate levels of physical activity.

Conclusion: The study findings showed that physical activity among the aging population changes over time, with approximately 50% of participants modifying their exercise habits due to physical conditions and aging. Most participants reported that physical activity becomes increasingly challenging as they age due to health conditions and time constraints. These results offer valuable insights into the current body of literature on physical activity among older adults, emphasizing the need for further research to develop effective interventions promoting physical activity. These interventions would enhance the overall health and well-being of the aging population.

Espy Daniels

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Physical Activity and Aging

Introduction: The topic for this research project is based around how and why age affects the level of physical activity that is being performed in the United States. When aging, there can be many setbacks that prevent one from staying physically active. The research question being presented is “how and why does age affect the physical activity levels of aging people?”

Methods: The research done in this project was conducted through the qualitative method. The types of questions asked consisted of how physical activity has changed throughout one's lifetime and the effects of physical activity throughout the years. For example, two key questions asked in the interviews for this project are “has your physical activity changed throughout the aging process?” and “what are some things that impede you from starting an exercise routine?” These interviews were conducted over the phone and then transferred to Qualtrics. The data was exported and analyzed using thematic analysis.

Results: This project resulted in the final theme that the lack in physical activity levels as one ages is not usually due to laziness. These inadequate levels of physical activity are usually due to bigger things in life such as limited time due to working a lot, injuries, and health conditions. Not everybody goes through life with a perfectly healthy body that is consistently capable of staying in the best physical shape possible or getting the necessary physical activity in. This was observed with some of the data conducted. For example, about two thirds of the participants claimed that their physical activity has decreased throughout the aging process, mainly due to limited time because of work, injuries, and health conditions. Over 80% of the participants also responded with these same answers when asked about the impediments of starting an exercise routine.

Conclusion: In conclusion, it appears that as people age and reach older age, they are more likely to become less physically active, as also stated in the article "Prevalence of Sedentary Behavior in Older Adults: A Systematic Review." There are many reasons for this, such as the loss of motivation, injuries, and medical conditions. The lack of physical activity can also increase the chances of more health issues to arise (Harvey et al., 2013). Another study suggests some exercises for those who are older to stay active and healthy while being more gentle on their bodies (McPhee et al., 2016).

Breana Davis

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How does physical activity change throughout the decades

Introduction: When it comes to aging, physical activity and health are frequently questioned, and many people ask if it's normal to be healthy and active as you age. The purpose of this study was to understand physical activity and health over the decades. Along with the new technologies that new activity brings, and the concerns people may have over aging and health difficulties. To learn more about the subject and develop thoughtful interview questions, we turned to scholarly articles. Some scholarly articles included were World Health Organization published some scholarly pieces in the collection. (2022, October 5). The illness prevention and control center. (2022), Age and weight's impact on physical activity (2020).

Methods: A certain amount of research techniques was used to conduct research on how physical activity has change throughout the decades. There were individual interviews of different ages from in their 50s to 90s. There was also a website used called Qualtrics and it was one of the techniques used to record the data and allow the group to see each other's responses. When doing this research, certain questions were asked. Questions included the level of physical activity, dietary habits, attitude toward physical activity, health status and improvement this decade has made compared to others. All survey questions were conducted by phone and in person.

Results: Most of the interviewers thought that the levels of physical activity had primarily decreased over the years because only 12 out of 30 respondents or about a third of the participants thought that physical activity had increased over time, while 15 or about half of the participants said it had decreased. There were around 34 responses to the question of how much exercise the elder population was getting, some of which were given in a calm and healthy manner. Some people's levels of activity have gone down, while others have stayed the same. More than half of the respondents claimed that maintaining their fitness involved a healthy diet and moderate exercise. Only three respondents claimed there had been no change, while five said their level of exercise had decreased. In general, most individuals have either gotten healthier and more active over time or have stayed healthy and active longer. However, some of them continue to be constrained by their own physical conditions and abilities. When it comes to how technology affected levels of physical activity certain individuals claim that technology has had a good impact on levels of physical exercise, while others claim that it has had a negative impact. On average, 45% of older people believe it has a beneficial impact, while 55% believe it has a negative impact. The availability of technologies, according to some, could have aided growth, but they also contend that technology made it more discouraging.

Conclusion: There are many older individuals who are still healthy and active, but there are also those who are declining or becoming less interested in physical activity. This is due to aging and the limited amount of movement that senior people can do. A similar study that was found displays the age distribution of people who are active and those who are not, and explains why in "Physical activity in older age: perspectives for healthy ageing and frailty."

Madison Davis

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Impact of Physical Activity with Aging

The overall responses within the study had very similar themes and codes. It's almost as if analyzing their psychology on these topics. The first question we asked people was, "Do you think physical activity has decreased or increased since the early 2000's?" The results were that 5 out of 7 people believed physical activity had increased since the early 2000's. That's 71.29% of people surveyed. The second question asked was "Do you think the physical activities of the aging population have changed over the decades?" Nearly all of the volunteers said that exercise has definitely had an impact on physical health over the years. The third question asked was Has your physical activity changed throughout the aging process? There were many people who had a physical impairment or pain that restricts them from being active, nearly all of them answered because of joint pain and orthopedic restrictions they are restricted from how much they can be physically active. After more research into the findings, it was discovered that a lot of people tend to exercise less as they age because of health issues that cause them pain when exercising. Another discovery also found that a lot of people believe that physical activity has increased over the years. This process was done through Qualtrics, and Microsoft excel. It took time and tedious work ethic to perform this research study. A new conclusion drawn based on other peers' findings is that physical activity has overall increased since the early 2000s and as people age, they tend to be less active because of health issues that cause them pain. There also tends to be many injuries or health issues that affect the physical activity of people as they get older. It does not seem that they are just being lazy and unmotivated, but rather that there are genuine issues that come with aging that can make it harder to stay in the best possible shape at said age. I think there are ways that people can find ways to be active even if it is the bare minimum (with some conditions), and that's where the lack of motivation and laziness may come into play. The overall themes drawn from the analysis' is how can we affectively learn and adapt our bodies to keep us physical active, and what are some common pain management methods and how can we improve them.

Resources:

- Ahmed, H. M., Blaha, M. J., Nasir, K., Rivera, J. J., & Blumenthal, R. S. (2011, October 18). *Effects of physical activity on cardiovascular disease*. The American Journal of Cardiology. Retrieved April 7, 2023, from <https://www.sciencedirect.com/science/article/pii/S0002914911027597>
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Anne Ebberwein

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Change in Mental Health Views Through the Decades

Introduction: Should include an overview of your research project topic and include your research questions. If your research question has shifted based on your results and how you decided to frame your research findings that's okay! Include your new research question. Include scholarly sources that support the importance of this topic (include APA style in-text citation if used, references should be included in poster, but don't need to be included with abstract) **(Critical assignment #1&5)**

Methods: Should include details related to how you conducted your research including the methods you used (qualitative) how you developed your instrument, types of questions asked, how you conducted interviews (e.g over phone, transferred to Qualtrics), and how you exported and analyzed data (thematic analysis).

Results: Include final themes and an overview of key findings **(Critical assignment #5)**. Include some of the statements related to summarizing the data to highlight findings **(e.g. 50% of adults responded with... Critical Assignment #4)**. Can include tables or charts here if space permits. See guidelines above for images.

Conclusion: This is where you draw final conclusions based on final themes and results. Think about how it compares to existing research, impacts the field and future next steps **(Critical Assignment #5)**

Keatyn Eller

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Changing Viewpoints on Mental Health Throughout the Decades

Introduction: Should include an overview of your research project topic and include your research questions. If your research question has shifted based on your results and how you decided to frame your research findings that's okay! Include your new research question. Include scholarly sources that support the importance of this topic (include APA style in-text citation if used, references should be included in poster, but don't need to be included with abstract) **(Critical assignment #1&5)**

Methods: Should include details related to how you conducted your research including the methods you used (qualitative) how you developed your instrument, types of questions asked, how you conducted interviews (e.g over phone, transferred to Qualtrics), and how you exported and analyzed data (thematic analysis).

Results: Include final themes and an overview of key findings **(Critical assignment #5)**. Include some of the statements related to summarizing the data to highlight findings **(e.g. 50% of adults responded with... Critical Assignment #4)**. Can include tables or charts here if space permits. See guidelines above for images.

Conclusion: This is where you draw final conclusions based on final themes and results. Think about how it compares to existing research, impacts the field and future next steps **(Critical Assignment #5)**

Tyler Ellington

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health Through the Decades

Introduction: For this project, the main topic of discussion was how have views on mental health changed through the decades? This topic was found to be important due to the “stigma” that adults grew up with about mental illness (Wahl, O.F., 2012). Also, there were underlying causes of poor mental health within the older generations. In an article by Malkin, “without appropriate mental health intervention, older adults may face adverse consequences including impaired quality of life, increased mortality, and poor health outcomes” (Malkin et. al, 2019). These reasons, the stigma on mental health in the older generations and the resulting quality of life with no treatments, led to the research question.

Methods: To find results, the researchers conducted interviews of one member of each of the following age groups: 50s, 60s, 70s, 80s, and 90s or more. If a researcher had trouble finding a member from an age group, a duplicate trial of an age group may have been included in results. The research was conducted in many ways. This may include interviews being conducted face to face, over the phone, or even via text. The researchers read each interviewee their rights and explained the interview. After consenting, the interviewees answered 10 questions that targeted the interviewees viewpoints on mental health as a child without trying to overly delve into personal situations. The responses were then submitted onto a website Qualtrics where all the data was collected then exported and used to conduct thematic analysis on the responses given. After all findings were gathered, the researchers reached final conclusions.

Results: Two common themes were discovered. The first being that lack of mental health awareness at a young age greatly affects future mental health, the second being mental health education has improved which improved overall mental health. Based on respondent's answers, the researcher found that approximately 65% of respondents remember negative perceptions of mental health within their lifetime. However, the researcher also found that 55% of interviewees felt they witnessed positive changes within the stigma of mental health and 75% said that mental health research has made a positive impact on mental health management in today's society.

Conclusion: The conclusion from the results was an obvious lack of mental health education when the respondents were younger, however their knowledge had increased dramatically once the respondents had gotten older. There's an article written by Mackenzie CS stating, “Adults 55 to 74 years old are approximately 2-3 times as likely to report a positive help-seeking attitude” (Corey, 2008). The article supports that the results of the interviews go together with other experimental data. Another article by Coley also helps support the findings by stating, “the intensity of chaos was associated with less healthy development across multiple periods and domains of functioning” (Coley et al, 2015). This article discusses how, if left untreated, issues could occur at a younger age leading to development issues at an older age. Next steps would be to root out the issue present within older populations. More research should be conducted so that awareness can be spread which could hopefully increase the public's mental health knowledge so that both younger and older generations may receive the proper treatment required in order for them to live with a healthy mind.

Daniela Escamilla

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

The views on mental health during the years

Introduction: This whole research is about how views on mental health have changed throughout older adults' lifetime. There was a survey conducted towards older adults talking about how their views on mental health have changed throughout their life. The questions asked in the interview were questions that connected to the main question of how the view on mental health has changed. This topic was chosen because there have been many studies done that older adults are suffering with mental health issues now than ever. One of the other big questions related to our main question is if they know where to receive the treatment needed. Based on the information gathered we would be determined if older adults are becoming aware of mental health issues and to see if they can receive help if they need it. The importance of this is because after reading a few articles that talked about how older adults are still afraid to receive the help they need to get better.

Methods: Instead of just asking one question and just getting one response the researcher decided to ask questions that would help elaborate more than just one answer. The interviews were done through a video chat so the facial expressions or the pause during the interview would elaborate to their answer. For example, a bad gesture was made when talking about how mental health has changed. The interviewer could ask why the gesture, or the pause was made to get more information about the questions asked. The responses collected were written down with additional conversation that the interviewer and the responder had. When looking for people to interview the interviewer looked for people with diverse backgrounds to see if there would be a difference in response. Some of the questions asked were “How do you think the discussion of mental health has changed from when you were growing up to now?” “How has your knowledge of mental health treatments changed?”

Results: Themes that were found after conducting the survey were that most people had bad mental health experiences and that there have been positive mental health management. Which means that even though they have had an unpleasant experience with mental health they are learning about it and getting to know where to receive the help if they need it. 75% of the responses said that they have had a positive impact on mental health management now that they are older. One of the responses collected said that an interviewer said that in Mexico they were never aware of mental health and knew about it only if they knew of someone had it. They also talked about how in Mexico if having mental health problems, it was considered different. “There was never time to have problems when being busy” basically that they did not believe in mental health problems. 65% of the responders said that they had an unpleasant experience with mental health during their lifetime.

Conclusion: After reviewing all the information gathered there has been a good result on how the responders' views have changed on mental health. The results were like other studies done in the past, which is a good thing because older adults are getting informed and do not have to be scared to receive the help they need.

Hanna Farahzad

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health in the Aging Community

The main question asked here is, ‘How does your perspective on mental health change during the aging process?’ This seemed to be a particularly important question to research given that older adults may experience anxiety due to aspects of aging like a decline in physical and cognitive functioning (Administrator). Diving into that broad topic deeper brought more detailed questions asked like, “How does your social life change as you get older, does it affect your mental health?” and “How does anxiety affect the aging population in today's society?” These questions were thought-provoking and led to the careful consideration of respondent’s circumstances surrounding mental health. Asking about a variety of age groups resulted in different, but yet very similar responses with common themes.

Research was conducted by creating a survey that asked questions related to elderly individual’s experiences with mental health. The surveys were sent out to individuals that encompassed a wide age range. Participants were asked to respond, according to what their experiences were, to the subject of each question. A survey was created that included ten questions such as, “To what extent do you believe early experiences influence mental health as an individual enters the elderly years?” among others. The survey was given through Qualitrics.com, which made the survey accessible to the participants. The responses to each question on the survey were recorded in an Excel spreadsheet to help identify and organize common themes within the answers.

Answers to questions such as “How does anxiety affect the aging population in today's society?” and “How does your social life change as you get older, does it affect your mental health?” were gathered. The answers represented a wide range of perspectives related to mental health. There was a lot of variation within the answers to question 8, for example, there were about 30% who claimed that they do not deal with anxiety themselves but have a colleague that does struggle. The majority of participants (about 70%) expressed that they currently worry and feel stress due to children/family, financial reasons, and losing loved ones. Question 9 had more similarities within their answers. About 60% said that as they got older, their group of acquaintances became smaller and they felt lonelier, which took a toll on their mental health. 40% of the rest of the results claimed that yes, their circle did get smaller, but being away from friends provided them with more time with family. Therefore, it did not change their mental health in any way, shape, or form. An intriguing question from a colleague was, “What kind of challenges do you face as a member of the aging population regarding mental health?” In their data analysis in discussion board 5, they claimed, “11% of people were struggling with depression and loneliness.” This theme recurred in this survey’s data analysis, along with another question asked regarding mental health. The two most repetitive themes within participants responses were lonely and satisfied.

Older adults face a variety of mental health struggles and hold varying opinions about it based on their experiences. However, regardless of age differences, similarities were found within the results from each age group. The survey helped to compile meaningful data about the participant’s experiences and beliefs related to mental health, which helped to fill a gap within research about how age impacts mental health. In particular, older generations may feel shame if they try to access mental health resources in the form of therapy, among other things. Possible next steps include making resources more accessible for older adults by advocating for therapists to meet with clients in a space that is accessible for them. This could help to make them feel comfortable enough to come forward about their mental health and destroy the stigma around accessing those resources.

Mauricio Fernandez Leon

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

How Mental Health Looks Like in the Aging Community

Introduction: The goal of this project is to not only investigate how mental health affects the aging community, but also to explore potential strategies for raising awareness and promoting change. The main research question of this study is: What does mental health look like in the aging community? Other research questions include: How are older generations impacted by society? How do you believe mental health is perceived in the aging community? What kind of challenges do you face as a member of the aging population regarding mental health? How does anxiety affect the aging population in today's society? How does your social life change as you get older, does it affect your mental health? To what extent do you believe early experiences influence mental health as an individual enters the elderly years? How have your views on mental health changed over the years? (Author, Year).

Methods: All interviews were conducted face-to-face, during which a laptop was used to write down participants' responses in real-time. After the data was collected, excel was used to further analyze the data and to create a thematic analysis.

Results: After all the research and interviews were completed, the research was compiled and the final themes were created: 1. Anxiety and loneliness in the aging population: 60% reported feeling lonely and experiencing a reduction in their social circle, which affected their mental health. However, 40% reported that their mental health was not affected due to having family and friends for support. 2. Challenges faced by the aging population regarding mental health: Death in the family, depression, and loneliness were common challenges reported. A lack of specialized training among mental health providers and societal biases were also mentioned. 3. Accessibility and understanding of mental health over time: The study found that with time, there has been an increase in the percentage of people who became aware and educated on the topic of mental health. Accessibility to mental health care resources has also improved. 4. Perception of mental health in the aging community: Mental health was perceived as not spoken about enough (30% of respondents), shameful (25%), and not taken seriously (15%). 5. Influence of early experiences on mental health: Negative early experiences were believed to set the path for depression and anxiety (20% of respondents).

Conclusion: The findings of this study highlight the importance of understanding and addressing mental health issues in the aging population. There is a need to increase awareness, reduce stigma, and improve access to mental health care resources for older adults. This research not only brings a light on current challenges, but can also pave the way for future research and ensure that advances are made in caring for the aging population.

Fatima Fierros

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

How Do Views on Mental Health Change Throughout the Aging Process?

Introduction: Recently, younger generations have influenced societal views on normalizing the mental health topic - its care is more accessible and talked about more. However, members of the aging population find it hard to relate to younger generations and vocalize their mental health concerns. This study intended to understand how views on mental health change throughout the aging process. The purpose of the study was to analyze individual perceptions of mental health to develop an intervention involving K-12 education and improve its care.

Methods: The research utilized One-on-One interviews where interviewees (n=20) answered a series of questions from a survey designed to correspond to the study. Responses were collected either in person or remotely. The survey involved questions regarding perceptions about various aspects of mental health, including accessibility, societal views, and time.

Results: Some interviewees (n=14, 70%) reported that they suffer from anxiety. Other individuals (n=6, 30%) stated that their mental health goes unspoken because they fear being treated as crazy or weak. They expressed concerns with ageist attitudes from some members of their society that mislead them to believe that a decline in mental health is normal for the aging population. Such discriminatory attitudes have made some interviewees (n=5, 25%) feel they are not taken seriously by younger generations. Individuals from the study population (n=7, 35%) agree that teaching about mental health can bring awareness to the generational gap regarding care.

Conclusions: Responses demonstrated that individuals from the study population feel disrespected and forgotten. They believe mental health is not taken seriously by those inside and outside the aging community. Study results support the necessity of a class or lesson throughout K-12 education that aids in normalizing reaching out for help to decrease ageism.

Sulema Flores

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health in the Aging Community

Introduction: Mental health is a topic that is perceived differently and affects all generations in unique ways. When comparing the older generations to the younger generations, there is a notable shift in the approach, understanding, and overall acceptance when referring to mental health. A large percentage of the aging population tends to have a negative approach toward such sensitive topic due to old traditional ways of thinking and social norms that hinder their knowledge and contribute to how knowledge is processed. According to the *Centers for Disease Control and Prevention*, it has been a challenge to educate the aging population on mental health due to the lack of knowing how to properly “identify risk factors, increase understanding on the issue and potential treatments, eliminate the stigma associated with the mental disorders and improve access to supportive services” (The State of Mental Health and Aging in America). Having gained such insight on the topic, the following research question was explored, “What does mental health look like in the aging community?”

Methods: To develop a strong and well-supported answer to the research question, qualitative data was obtained through a series of surveys. The survey was composed of ten questions that would result in providing insight into the effects of early experiences, accessibility to resources, and overall understanding and willingness to accept new knowledge on the topic. The questions were imported into Qualtrics, which is an online tool that facilitates the obtaining of data and allows the user to export data for further analysis. A total of thirty participants ranging from 50 to 90 years old were explained the purpose of the survey and encouraged to give as much detail as possible when responding. In some cases, the participant's age and unfamiliarity with new technology caused the interviewer to step in and conduct the survey over the phone or in person and then manually go in and fill out the survey. Once qualitative data was obtained the questions were split amongst the group and each question was thoroughly analyzed and used to develop overall themes. To facilitate the process, the data from the survey was exported into an Excel sheet and categorized depending on the common themes that were found.

Results: After conducting the research portion of the process, it was found that many responses connected back to similar themes. The theme of thoroughly understanding the topic is one that many participants emphasized in their responses. It was calculated that approximately 75% of participants felt as if due to their age, they had a restraint that prohibited them from seeking guidance on the topic and becoming more informed. This leads me to the next two themes, in which 68% of participants believe accessibility is a factor that must be worked on to improve the approach toward mental health and 36% believe that societal views affect the interaction with the topic.

Conclusion: The topic of mental health is one that will continue to be a priority for many as it contributes to the attitude and approach an individual has to daily activities. Although there were minor obstacles in the process, the data collected reflects how society's approach to a topic can create a negative connotation around a topic that affects everyone in different ways. As a society that's progressing, there needs to be a step taken back to reevaluate the importance of the topic and re-teach it to older generations that find it hard to accept new ideas that contradict their own knowledge. The research conducted aligns with research previously conducted and can be used to gain a deeper understanding of how the aging population feels about the topic. As more individuals help inform others on the importance of taking into consideration the aging population and mental health, the closer we will be to a healthy, positive, and more accepting society.

Logan Fortner

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Disparities in Healthcare lead to Health Issues

Introduction: The dilemma of experiencing issues as you age is inevitable. This study focused on how income/social factors play a role in the views on the health care system. More specifically it investigated the cause of disparities faced by older adults within our healthcare system, and how it has affected their views on health care. The purpose of this research project was to see how income and early childhood conditions play a role in disparities faced as adults, within the healthcare sector and what interventions could take place to improve the system from the ground, up.

Methods: Research included both in person interviews, and phone calls to collect responses about views on healthcare. Primary data was collected based off the main research question, which included several sub questions based on the study's current focus to improve the system. 21 responses in total were collected, with a researcher present to answer questions about the survey. Emotional state, opinions, and individual experiences about the research were all collected in person via direct participant response or over the phone. Questions included things about childhood experiences, income's role in access to healthcare, and disparities and their connection to health issues.

Results: Participants in the research all had one thing in common in relation to how they view health care. 100% of all participant's agreed healthcare is way too expensive and income has a huge effect on how healthcare is viewed. Nearly 75-80% of participants believe income plays a role in access and quality of healthcare received, which is connected to the health issues faced while aging. In addition, 90% of participants who grew up in stable conditions and had stable childhoods had no noticeable health issues, while the few who did not, all claimed to have one or several noticeable issues proving disparities within the system exist and affected the participants views.

Conclusions: Information obtained from this research proved disparities within healthcare lead to lower quality of life, increase in health issues, and poor outlook on the healthcare system. Many participants emphasized income as being the main disparity amongst adults and acknowledged early childhood conditions for playing a role in the health issues they faced. Research into how preventative healthcare early on can decrease the health issues we face, and research into how healthcare can be more affordable and accessible for all adults are both needed to decrease the disparities amongst adults within healthcare and improve the views on the healthcare system.

Amelia Funston

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

The United States Healthcare System

Introduction: My group asked the question How Do Racial Disparities Amongst Adults Affect Views on Healthcare? Based on our results, we shifted our question to What Are The Biggest Issues Concerning the United States Healthcare System? We found multiple sources to corroborate our findings. Maria Vaalavuo for the National Library of Medicine found that people find healthcare to be inaccessible and unaffordable. Also from the National Library of Medicine, Irena Stepanikova and Gabriela Oates found similar results, as even highly educated Black Americans do not have adequate access to healthcare.

Methods: We used a qualitative research method in order to gather results. We developed these questions in order to get a full scale view on how our participants feel about the United States Healthcare System and to get insight on the issues they feel are the most impactful to them. We conducted interviews over the phone and transcribed them into Qualtrics in real time as they were answering. We then exported the results and analyzed them into different categories as pattern began to arise from responses.

Results: After reviewing all results from the survey, we found that 95.24% thought the US healthcare system was either too expensive or not effective. As one participant said, “Overpriced and underdelivered. Unattainable.”

Conclusion: In conclusion, based on participant responses, the United States Healthcare System needs to be more affordable and reformed. The future of healthcare is leaning towards universal healthcare for all. Based on other research and data collected, I believe the results from our surveys fall into the general consensus of other researchers.

Aisha Gaither

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Impact of Cognitive Decline Among the Aging Population

Introduction: The way in which the mind changes as people age is enigmatic and complicated. While an awful lot of research makes a specialty in exploring the mind, many things remain unknown. With life expectancy doubling within the past centuries, issues pertaining to the mind related to age, intellectual decline, and brain mobile loss along with Alzheimer's and dementia, have yet to be cured. Because of this, significant questions to explore are: How does increasing age contribute to cognitive decline in the elderly? And how is the impact of poor mental health associated with dementia? Upon the data retrieved from the interviewees using Qualtrics, it was surprising to see that 67.5% reported good general wellness such as diet and exercising with only two participants partaking in drugs or alcohol. This goes to show that increasing age is not correlated to cognitive decline. It would make sense that poorer wellness will increase your chance of cognitive decline in the future, but data suggest otherwise and that there is a different factor causing cognitive decline. A study showed that a decrease in hippocampal volumes due to depression is also associated with neurodegenerative and psychiatric diseases. For the right hippocampus poor sleep and severe depression for over 5 years associate with reduced hippocampal volumes as for the left, diabetes and low blood pressure were significant predictors (Elcombe et al., 2015).

Methods: Qualitative data was gathered through a survey by group members who were required to interview interviewees each between the ages 50-90. A total of thirteen questions were asked per interviewee regarding questions about their opinion on cognitive decline, dementia, and Alzheimer's such as How would he/she describe their wellness? How does he/she stay mentally active? What are he/she thoughts on cognitive decline? Once data was retrieved, it was recorded into Qualtrics, and results were analyzed by each group member.

Results: More than half of the interviewees were worried/anxious about developing a neurodegenerative disease in the future which would explain why 67.5% do their best to keep a healthy lifestyle. Twenty-one out of the thirty interviewees stayed mentally active by reading newspapers and religious texts and eight out of thirty stayed mentally active by listening to music. The stress of developing a neurodegenerative disease is what helps people stay on the path of a healthy lifestyle.

Conclusion: Aging is inevitable. It is even common to hear that many people who age have a change in mood/personality which could also be indications of early memory loss. As you grow older depression is more likely to increase along with medical conditions. This goes to show that mental health is important in every aspect and could be linked with neurodegenerative diseases. Although it is true that an unhealthy lifestyle can cause cognitive decline, there is more data indicating that poor mental wellness contributes to dementia. The next step to take for the future researchers is a longitudinal study with participants who prioritize keeping a good mental health and to see if cognitive decline is decreased.

Katelyn Gendron

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Understanding Cognitive Decline and the Needs of Older Adults

Introduction: The population of older adults is increasingly growing and facing issues which have been addressed inadequately. The purpose of this research was to explore how aging contributes to people's experiences with, thoughts on, and understandings of cognitive decline (CD). It analyzes interviews and research articles such as, "Nutrition, Physical Activity, and Other Lifestyle Factors in the Prevention of Cognitive Decline and Dementia," to understand the ways in which CD might be prevented by lifestyle (Dominguez et al., 2021), as well as, "Association between the frequency of daily intellectual activities and cognitive domains: A cross-sectional study in older adults with complaints of forgetfulness," to understand how cognition can be improved (Iizuka et al., 2021). Overall, this study aims to increase understanding of the needs of older adults, as well as to push research and healthcare practices in the directions necessary to fill gaps in knowledge and practice.

Methods: This study was conducted through phone call interviews, in which adults were asked questions about their personal experiences throughout aging and regarding CD. Six students each interviewed one adult in each of the following age groups: 50s, 60s, 70s, 80s, and 90s (if a student could not identify someone in their 90s, they repeated another age group). The ten questions asked were developed with the purpose of gathering qualitative information on participants' experiences with, thoughts on, and understandings of CD. Responses were written into Qualtrics for organized tracking, then exported into spreadsheets for thematic analysis of issues well-encompassing of the lived experiences of participants.

Results: Thematic analysis revealed that the themes most significant were lifestyle, support, and symptoms. 26% of participants believed CD is preventable by lifestyle choices such as diet, exercise, and socialization, although 52% believe that it is a natural part of aging. Regarding support, 42% of participants were unsure of what resources are available to them, but 61% mentioned doctors. The importance of support from friends and family was significant in the responses as well. Participants often mentioned forgetfulness as an issue when aging. Of participants experiencing CD, 65.2% forget names, stories, or events, and 47.8% can't take care of themselves.

Conclusion: Many participants believed CD is preventable by a healthy lifestyle, which is supported by some research. Because many worry about CD, it is likely these people engage in a healthy lifestyle to prevent CD. Others believed CD is a natural part of aging, and analysis found CD affected older adults most, but that data lacked correlation between lifestyle and age, which indicates that age may contribute to CD most. These conflicting findings indicate more research is necessary to understand the topic. The large number of people unsure about support available indicates a need for better advertising of support as well as more options in general. The prevalence of the mentioning of support from loved ones indicates a high need for social support during aging and CD. Participants often mentioned forgetfulness, and many can't care for themselves, indicating a need for accessible resources for them. One article revealed forgetfulness can be improved with daily intellectual activities (Iizuka et al., 2021), revealing hope for reducing it. Overall, the results of this project implemented in research and healthcare could greatly benefit older adults. In the future, it could lead to better support systems, reduction of CD and symptoms, as well as longevity of health and a better quality of life for many.

Logan George

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

How Does Aging Correlate to Cognitive Decline

Introduction: This research project was focused around finding how mental and cognitive abilities decline with aging. The research question used was, how does cognitive decline change through aging? For questioning, general themes like health in everyday life and then some specific such as, “What cognitive changes have you experienced during the aging process? If you have experienced cognitive decline, how do you manage it?” This topic remains relevant because according to Sujuan Gao and others at AGS Journals, “Dementia incidence declined over the past four decades, but Alzheimer’s Disease incidence did not decline” (Sujuan et al., 2019). This research shows that it is still an issue in the elderly.

Methods: The main method used to conduct research was in person, then later transferred to Qualtrics. To find participants, friends and family were asked if they had anyone in the age group that was being looked for. Questions were read off, and the corresponding answers were typed in. Most questions were in depth but on the chance that it was answered with a yes or no, an attempt to ask related questions to try and get more information was made. Most questions focused on a certain part to narrow down answers and get more accurate data.

Results: Some key things found, which was close to what was believed at the start, is that cognitive decline has a connection to aging. In the data, it showed that 65% of people experience memory loss and/or cognitive decline. 60% of participants spoke of trying to have healthy diets and maintain regular exercise. 52% of participants believed that cognitive decline was just a part of the aging process. Another result finding that was significant was that 75% of participants spoke about being sad and disheartened seeing their family and friends go through cognitive decline. They spoke of being sad to be forgotten by their loved ones.

Conclusion: In conclusion, cognitive decline and memory loss are still a prevalent issue in the elderly. A theme found was that, even while trying to maintain healthy diets and exercise, people still struggled with memory loss. Sometimes only miniscule things were forgotten. The results showed that the majority of people still experience memory loss at ages 50+. The findings in this support and match had been found in existing research done by many. The next step should be trying to narrow down exactly what causes it, such as if a certain diet is more prevalent to developing a mental decline and illness.

Mason Hawley

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Wellness and Cognitive Decline: A New Outlook on Aging

Introduction: To many young people, forms of cognitive decline such as neurodegenerative disease may be seen as distant concerns that will only materialize in one's older years. Older adults who have more experience in the topic may have a more varied perspective on the subject. Considering this older age group experiences higher rates of cognitive decline, it is reasonable to not only consider this age group's perspectives, but also consider what factors, namely age and wellness, may contribute to these perspectives. This study investigates how an individual's perception of their general wellness is associated with their risk of and outlook on cognitive decline among older adults. In investigating this question, there is potential to uncover a unique human aspect of cognitive decline, a topic already saturated in the biological aspect of science.

Methods: 30 adults, aged 50 to 88, were interviewed asynchronously, virtually, or in-person and asked ten open-ended questions about aging as it relates to cognitive decline and general wellness. These questions investigated the interviewee's personal experience as well as their experience with others. For the purposes of this study, "cognitive decline" refers to any form of mental deterioration that may be a result of natural aging, disease, or injury. Participants had the option of filling out an online Qualtrics survey or doing a live interview, either online or in-person, where the answers would be submitted to Qualtrics afterwards by the interviewer. The data was analyzed by organizing the answers to each question and identifying specific patterns or themes that were prevalent in different subsets of the participants or in certain questions. The Qualtrics survey tool and the questions used were cooperatively developed.

Results: Of 30 respondents, 12 expressed mixed (6) or negative feelings (6) about their general wellness, with the remaining 18 expressing positive feelings about their wellness. The average age of the positive subgroup is 67.5 while the average age of the mixed/negative subgroup was 68.5. The most discussed topics in both subgroups were exercise frequency, diet quality, and level of social activity. Over half of participants reported cognitive decline usually in the form of slower learning, problem solving, and memory recollection, with just 50% of participants indicating that aging was a natural process. 8 out of 30 respondents indicated that cognitive decline was preventable with a healthy lifestyle while only 3 indicated that once it has begun, cognitive decline cannot be stopped or slowed.

Conclusion: Considering the average ages of individuals who self-report good health (67.5) and those that do not (68.5) are only a year apart, this suggests that there is little correlation between one's age and their self-reported wellness. Although this could be a result of those who negatively report wellness having health issues not related to age, this is unlikely as only 4 of 18 members of the mixed/negative subgroup reported actual disease. The remaining 14 only described poor lifestyle choices that are not results of age. In contrast, cognitive decline was seen in much greater frequency in the 80+ age range, showing a close association between age and the prevalence of cognitive decline. From this data, it is reasonable to conclude that self-reported general wellness and the individual risk of cognitive decline are not closely associated. This is additionally supported by the data as only 27% of participants directly indicated a link between wellness and risk cognitive decline. Although more research should be conducted, wellness may still play a role in the incidence of cognitive decline as it is likely that there are different, greater forces involved. Further research should investigate other risk factors of cognitive decline such as mental activeness, occupation, and social class.

Hanan Hayyeh

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Cognitive decline and aging

Introduction: This study was focused on how aging contributes to cognitive decline. The purpose was to explore different aspects of cognitive decline and how it affects the elderly. This study was used to learn about the decline presented with aging and to learn more about their experiences and how them and others were affected by it.

Method: A series of interviews were conducted by 6 group members, in the method of a phone call, in person, or by messaging. Questions asked were about general wellness, physical and mental, resources that are available for cognitive decline, things learned or already know about decline, whether they've seen memory loss in your family or friends, have they worried about decline with aging. What cognitive changes have they experienced during the aging process, how do they manage decline, describe a typical day for someone who has memory loss, how does memory loss of friends or family impact you, what symptoms of decline do people you know present with. The data collected was analyzed using common themes.

Results: First and foremost general wellness in relation to cognitive decline: In certain interviewees general mental and physical wellness had been linked to either reduce likelihood of developing cognitive decline or to have less severe symptoms of decline. Although cognitive decline is not completely preventable, mental and physical wellness can decrease the likelihood of development. Common symptoms of decline that were mentioned were as follows: long term memory loss was associated with forgetting people, faces, routine, important dates and events. Analyzing the results, not many experience long term memory loss in comparison with short term memory loss. In regards to short term memory loss it was more common within our interviews and sometimes was also present with long term memory loss as well. Symptoms associated with short term memory loss was as follows: misplacing things, forgetting what has just been told to them or forgetting recent events or stories. In most interviewees cognitive decline was either managed in the early stages by maintaining and increasing physical activity and mental activity such as trivia puzzles etc. Or it was managed by being calm and trying not to get frustrated about it. Others manage it with the help of their family members to help them keep track of things etc. In more severe cases their family members take care of them long term. In regards to how much the interviewees knew about cognitive decline resources there seemed to be a significant lack of knowledge. 42% of participants felt unsure about much support being available for those experiencing forms of cognitive decline. 61% of participants noted support is available through medical assistance of doctors, therapists, and medication, however many were unsure beyond that point of what else was available. 52% attributed cognitive decline as just another part of the aging process. 26% of respondents mentioned that they believed cognitive decline was easily preventable through healthy behavior and lifestyle.

Conclusion: There seems to be a lack of knowledge about resources available to those experiencing cognitive decline. The effects of family and friends of those with decline experienced sadness, and heartbreak. General wellness seems to be linked to help prevent likelihood of developing cognitive decline and or having less severity in symptoms. Most symptoms experienced by our interviewees were common among others as well. The next steps future researchers or the field could take would be finding more about the specific causes of cognitive decline and trying to prevent those causes instead of just trying to prevent cognitive decline itself, another step would be creating new meds that help reduce cognitive decline. And finding ways to better equip facilities that take care of those with cognitive decline.

Dominic Heater

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health of Aging Adults

Introduction: In the Health Issues in Aging class at UMKC, group 11 began a research project based on the question, “How does aging affect the mental health of people 65 and older in an urban setting?” Mental health illnesses are becoming more prevalent as time goes on. According to *Mental Health America*, one of five Americans are experiencing mental illness (*The State of Mental Health in America*, 2023). When studying the effects aging has had on older adults in an urban setting, group 11 discovered steps that help minimize mental illnesses that are caused by certain aspects of aging. Family support and physical activity as found in their research have been the two most impactful sources of help.

Methods: Each member of the group conducted about five interviews, totaling thirty-four interviews. The interviewees ranged from ages forty-nine through ninety-two and were asked ten questions each related to how aging has impacted their mental health. After conducting each interview, the responses were recorded into a shared Qualtrics page. Once all interviews were collected, each member analyzed a question or two using the export feature within Qualtrics. During this analysis stage, the members read through all responses for their assigned question and gathered the three most common themes of the responses. Finally, each wrote a summary of their findings and shared this to the rest of the group to use for an overall study of the interviews.

Results: Physical activity and family support are two main components that benefit mental health as the population ages. Mental health is tied closely to physical activity. *Journal of Education and Health Promotion* states that “increases in physical activity, over a four-year period, [are] associated with improvements in self-efficacy, self-worth, and positive affect in older adults” (Harooni, 2014). As seen in group 11’s research, interviewees that are intentional about physical activity see noticeable differences within their mental states than when they have a lack of physical activity. Family support impacts the mental states of individuals in several ways. Eighty-one percent of interviewees said that family support was beneficial to mental health by helping fulfill the following: physical needs, emotional needs, motivation to care for themselves better, or even just the help of providing daily activities to stay active. Researcher J. Harooni says in his research article, “Family support, friends and health care workers are considered as important factors for obligations regarding healthy behaviors” (Harooni, 2014).

Conclusion: As a future outlook upon these issues, Americans ought to advise not only the elderly in their lives to stay physically active but all generations. Today’s generation will grow old, and if Americans do not train each other to stay active now, it is unlikely to happen later when they are old, frail, or physically worn down. Men and women need to not only advise their aging loved ones to be active, but to help them achieve these goals. Going on walks, playing at a park, and going to the gym or pool, are a few of countless cheap options to keep America as a whole active, and thus mentally healthier. These are simple tasks that America ought to do each day and we ought to invite others to do with us to minimize the twenty percent of Americans that experience mental health today.

Cecelia Hines

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

A Qualitative Look at Mental Health in Aging Adults

Introduction: Through research it was sought to find the effect off mental health on an aging population in an urban setting. This got morphed a little in the research process and ended up as “How does aging affect mental health?” Not a big difference, but enough that it is worth mentioning. Prior research showed that only 20% of the aging population was diagnosed with a mental health condition so changing this question around made it so more people felt like they could be included in answering the question (Cummings et al, 2017).

Methods: Data was collected by means of a Qualtrics survey. This survey consisted of ten questions concerning mental health and daily activities and only collected qualitative data. Most interviews were conducted through phone calls and then recorded into the survey later. Once all the data was gathered it was organized and analyzed on an individual basis for each question. Themes were found within each question and then grouped by the overall results of those themes in order to have the common themes revealed.

Results: Three main themes identified from the data were positivity, physical activity, and interaction with others. Due to the question about physical activity 100% of the respondents made a comment that on harder days they do not get up and do much and on easier days it makes it better. The research shows that 74% of people had support from their family that positively impacted their mental health. Furthermore 65% of people brought up other people in their list of things that positively impact their mental health.

Conclusion: Overall the research supports that people are generally happy as they age and know what makes them happy. Over half the responses mentioned physical activity positively impacting mental health. The idea that physical activity improves mental health is supported by an article titled Effects of a randomized exercise trial on physical activity, psychological distress and quality of life in older adults which discusses that more active people generally have a higher standard of mental health (Awick et al., 2017). While there were questions directly asking about family support, responses also mentioned support from others in questions that only asked about how to improve mental health. These findings are supported by the article Social Relationships and the Health of Older Adults: A Examination of Social Connectedness and Perceived Social Support where it discusses that interactions with other people can lower your risk for mental health and physical health diseases (Asante & Karikari pg. 1). More research should go into the melding of these two ideas of people getting together and physical activity while that happens.

Hinkle Glenne

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Aging and Mental Health in Adults Over the Age of 50

Introduction: Looking at the question “How does aging affect the mental health of people over the age of 65” (changed to “how does aging affect the mental health of people over the age of 50”) has many different topics that can provide an answer. Our research focused on how older people perceived mental health and the change in how it is perceived through the years as well as how different aspects of their lives contribute to their mental health in addition to any advice they would give to younger generations on maintaining good mental health. With the answers to our questions, I was able to identify several themes: people over the age of 50 believe that the perception on mental health has changed through the years and good mental health is made of the common themes of rational thinking, an overall positive mood, emotional maturity and stability, and mental health being the center of one’s physical health.

Methods: As a group, we came up with 10 questions that related to our overall topic question stated above. We then compiled these questions into an online survey where the interviewer could record the interviewee’s answers, or the interviewee could do the survey online themselves. In hindsight an online interview was not the best option because not everyone was able to complete and submit it through the website but through communication and coaching, we were successfully able to obtain 37 interviews in one to two weeks. Each participant in our group had to submit at least 5 different interviews from at least one person in the age groups we were given: 50-59, 60-69, 70-79, 80-89, and 90+. If we could not find someone who was older than 90, we could repeat and age group. With the results of our interviews, we then split up the questions and each analyzed 1-2 specific questions and shared our results with the group.

Results: 40% of the interviewees perceived mental health as having an overall positive mood and 80% of the people we interviewed believed that their views on mental health have changed over the years being either a positive change or a negative change. Within the answers, people talked about their families and mental health within their families. Mental health stereotypes were also mentioned and the lack of change towards thinking about specific mental health conditions like schizophrenia. There was some concern about dementia and Alzheimer’s from 20% of those we interviewed who talked about rational thinking as being part of how they perceive good mental health. 18% of those we interviewed mentioned mental health as being the center of their physical health; if their mental health declined then they were concerned about their physical health also declining.

Conclusion: Overall our research supports the research others have done; the older generations have a unique view on what good mental health means as well as concerns about deteriorating mental health. It surprised me that some of the people we interviewed thought that their perception on mental health had changed negatively through the years; I predicted that if there had been a change it would have reflected our society’s more positive change in ideas surrounding mental health. Other research mentioned the connection between mental and physical health which support our results. If we had more answers to our questions some of the themes would still stay the same but I think new themes would emerge and become more prevalent like the effect family has on mental health and well as medications.

LaToya Hodge

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Contributing factors to Mental Health in Aging Adults

Introduction:

There are various factors contributing to mental health in aging adults. To help myself and fellow classmates gain knowledge, understanding, and insights to exactly what some of those contributors are, we developed a research question asking how does aging affect the mental health of people that are 65 & older in an urban setting? And how do some of these contributing factors influence or help mental health in aging adults.

Methods:

Fifty people were interviewed between the ages of 50's to 90's. We conducted our interviews by phone, emails, face to face, and virtual video. Data was entered into a survey that was developed on Qualtrics. To help us understand the various viewpoints of responses from our interview participants we identified themes from those responses and developed thematic analysis that was created in an excel spreadsheet.

Results:

The thematic analysis from each group member helped us as a group to compare and contrast the diversity within our findings and allowed for us to identify how many of our respondents responded in certain ways. Some of the themes we found were social connections, physical health, positivity, helping with physical needs, self care and exercise. When it came to social connections, we found that 40% of participants said that social connections were beneficial to them when it came to their physical health and mobility. With exercise , 30% of participants said that it was beneficial to their mental health, while 20% said that they did not exercise at all due to physical pain. Self care and hobbies took the lower end from participants with self care at 15% and hobbies also at 15%.

Conclusion:

This study provided insights into the difficult challenges, contributing factors, and the stigmas in mental health that affect the aging population. The data from this study analyzed specific contributing factors affecting mental health in aging adults such as social connections, and limitations on physical mobility. Data from this study shows significant suggestions to people in the aging populations of what things that can be done to help with their mental health.

Samm Hudgins

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

How Generational Differences Affect Perception Of Mental Health In Older Adults

Introduction: 50 adults ranging from 50 to 99+ in Kansas City and other surrounding cities were surveyed regarding their mental health in relation to their respective ages. The survey aimed to see if aging affects the mental health of people 50 and older in urban settings as they age. Scholarly sources were used to create a foundation for the study which showed insight into a similar study on a larger scale.

Methods: The gathering of data was either in person or over the phone, the participant had the option to type or have the researcher transcribe their responses. The instrument was developed by a collaboration between researchers to provide the most cohesive order of questions as they become more personal as the questions progress. It was important to build up to more intense questions to ease participants into the conversation. 10 questions were presented and each participant was given the opportunity to opt out of answering any questions they were not comfortable with. The questions related to their own perceptions of mental health, how familial support has affected their well-being, if their views have changed as they age and how so, and if they had any advice on improving their mental health as well as others their age. After the collection of data was completed, each researcher was assigned 1-3 questions to thematically analyze. The thematic analysis consisted of pulling results from the survey into a spreadsheet and dividing answers to specific questions into different categories that related based on the themes that were present, such as the relationship between mental health and physical levels or how societal stigmas have affected them. From the thematic analysis, data and statistics were pulled, for instance, the percentage of how many participants who felt they had a strong support system within their family.

Results: Unique data was pulled from the survey that showed correlations between how mental health was perceived within generations. Out of 50 participants, only 38% noted having a strong familial support system which represents roughly 4 out of every 10 participants. 31% of participants responded with feeling a deeper understanding of mental health as a whole as well as feeling more emotionally mature as they have aged. 18% of the participants mentioned their relationship with mental health and its correlation with physical health and vice versa. And lastly, only 11% willingly shared their own mental health diagnoses and how that has affected them both positively and negatively. To view these statistics in an illustration, click this [graphic](#). Since the research included those 50 years and older, these lower statistics could be in relation to societal standards and practices surrounding the topic of mental health when participants were younger that have manifested into their own belief systems.

Conclusion: Although this study focused on a small sample of a very large population, it allows insight into the perception of mental health through different generations, something that may be seen as taboo for said generations. Many statistics were able to be pulled from the sample which could further research on this topic. Studies like this are valuable in understanding generational trends through the lens of mental health such as political and religious ties. Further research should be done surrounding this subject with a larger sample and could potentially use this study as a source for further development into this topic.

Missy Huntebrinker

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Sunscreen: The Aging Population

Introduction: Over five weeks, a research project was conducted to understand the relationship between the aging population and sunscreen. Rego et al. (2010) talks about how much care is taken in the research of UV rays due to how harmful they are. In the first week the main research project question was developed; How can adults over 50 use of sunscreen from an early age impact their risk of skin cancer? During the second week research questions were developed, under the main research question, to use later when interviewing the population. After this was done the questions were looked over and major themes were produced. From these themes conclusions were drawn.

Rego, D., Fernandes, L., Nascimento, T., & Grenha, A. (2010). Evaluation of a sunscreen during a typical beach period. *Journal of pharmacy & bioallied sciences*, 2(1), 47–50.

<https://doi.org/10.4103/0975-7406.62711>

Methods: From the main research question interview questions were developed. These questions being: What climates have you lived in for most of your life? Have you used sunscreen consistently throughout your life and how has that impacted your skin? Growing up, how often was the use of daily sunscreen advised? Since sunscreen has been more widely advertised, have you used it more? In your opinion, what do you think is the appropriate age(s) to start applying sunscreen before reaching 50 years old? What are some of the skin issues you have faced in your life, and where they due to unprotected sun exposure? Do you believe there are ways to improve sun damage to mature skin? Do you know anyone with skin cancer? How do you believe skin cancer is perceived by the aging population? What are some of the factors you believe prevent people from getting skin screening exams? All ten of these questions were asked to five different people (ranging in age from being in their 50s-80s). These interviews were conducted over the phone and then entered to Qualtrics. In the Qualtrics the data from these questions could be analyzed.

Results: Final themes drawn from the interview consisted of; starting to use sunscreen from an early age and those advertisements helped the usage of sunscreen increase. From data taken from the interview questions it was found that 80% of the responses agreed that usage of sunscreen should be used at birth or at an early age. It was also found that over 50% of individuals used sunscreen more as more advertisements or awareness were increased.

Conclusion: The two major conclusions that were drawn from all this research were the lack of awareness of the surroundings of the use of sunscreen and the age at what age a person should start to wear sunscreen. Even though there is a lot of growing awareness around the use of sunscreen there is still a large part of the population that does not understand the importance of using it. Future steps to spread this awareness are to continue to produce more studies, use more advertisements, and make it clear how important sunscreen is. The other common conclusion was the age at which sunscreen should be used. Starting to use sunscreen at the youngest age possible is the best way to prevent skin concerns later in life.

Hawa Ibrahim

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

The Reality of Sunscreen

Introduction: Should include an overview of your research project topic and include your research questions. If your research question has shifted based on your results and how you decided to frame your research findings that's okay! Include your new research question. Include scholarly sources that support the importance of this topic (include APA style in-text citation if used, references should be included in poster, but don't need to be included with abstract) **(Critical assignment #1&5)**

Methods: Should include details related to how you conducted your research including the methods you used (qualitative) how you developed your instrument, types of questions asked, how you conducted interviews (e.g over phone, transferred to Qualtrics), and how you exported and analyzed data (thematic analysis).

Results: Include final themes and an overview of key findings **(Critical assignment #5)**. Include some of the statements related to summarizing the data to highlight findings **(e.g. 50% of adults responded with... Critical Assignment #4)**. Can include tables or charts here if space permits. See guidelines above for images.

Conclusion: This is where you draw final conclusions based on final themes and results. Think about how it compares to existing research, impacts the field and future next steps **(Critical Assignment #5)**

Chinecherem Ihenacho

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Why Sunscreen?

Introduction: When it comes to sunscreen, there are many misconceptions about its usage and its overall benefit. Although this benefit is clear to many due to the increase in awareness over the past years, there are still those who are sure of what sunscreen is and why we should use it. This sparked the creation of our research question, how can adults over 50 uses of sunscreen from an early age impact their risk of skin cancer? Many scholarly sources supported the lack of sunscreen usage amongst US adults and other articles spoke about the fear that contributes to these low percentages of sunscreen users even with the risk of skin cancer associated with unprotected sun exposure.

Methods: Qualitative data was used while conducting interviews with adults from five different decades, which were 50, 60, 70, 80, and 90. Finding those in their 90s proved difficult, so many of us repeated another decade to compensate for that. Some interviews were in person, while others were through the phone. Some of the questions asked during the interviews focused on the difference in sunscreen use with the increase in advertisements regarding its benefits. We also asked how often parents or health professionals advised sunscreen while growing up. To further analyze our data, we used thematic analysis. One of the two themes that will be discussed further is misconceptions about sunscreen use in people of color and the lack of consistency with sunscreen usage for those who said they used it.

Results: Many of our interviewees, specifically those of color, felt their skin rich in melanin was enough to protect them from the sun's ultraviolet rays which increased the risk of skin cancer, but we know that isn't the case. Amongst Blacks, those who didn't use sunscreen felt that their race or skin color was enough to protect them and alleviated the need for sun protection. Those who used it did so for beauty norms rather than the risk of cancer (Lunsford et al.) This was similar to what we saw as one of our interviewees mentioned how using sunscreen improved her skin and made her look younger. Another mentioned that sunscreen was bad because it dried her skin. During our analysis, we found that 60% of people have used sunscreen more since it has been widely advertised and has seen an improvement in their skin and about 22% of people still refuse to use sunscreen even with the awareness they have about its benefits.

Conclusion: Similarity to what many researchers before having found and what we also found, there is still a gap in those who use sunscreen and do it consistently, especially in communities of color, as many of our interviewees who grew up in other countries and moved to America never heard of sunscreen and its benefit regarding protection on skin cancer. There is still far too much to learn when it comes to convincing people to wear sunscreen to protect their skin, but we also must understand that it's the individual decisions to make, even with all the data we provide that proves our reasoning right.

Zaran Jathaul

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EUREKA! Course: GECRT-SS 111 Health Issues in Aging

Use of sunscreen in adults aged 50 and over

Introduction: My group decided to do a research project on the use of sunscreen in adults over the age of 50 and correlate it to what their fear is of skin cancer. We went asked adults several questions about their use of sunscreen and fears of skin cancer.

Methods: We developed our questions when are group wanted to decide to figure out how skin cancer can be prevented with sunscreen. One of the questions we asked was how do you believe skin cancer is perceived by the aging population?

Results: We found that a heavy majority of older adults don't really have a fear of skin cancer. While most adults know it's there. Most feel as though that there is so many things out there that can harm them that life wouldn't be enjoyable if they focused on every little thing.

Conclusion: The conclusion I found is that most older people don't really have a care for skin cancer. They know it's their and it's one of many things that can harm them. However, I think it is still important to raise awareness about skin cancer especially for those being affected by it and the importance of using sunscreen to help prevent skin cancer.

Lynette Jeem

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Study of Health Behaviors in the Aging Population with Chronic Disease Risks

Introduction: Chronic disease has grown to become a large risk in America and especially towards the aging population. The older population of Americans are most likely in higher risk of suffering from three or more chronic disease conditions as age increase. It is found that 90.02% of people ages from 65 and older suffer from three or more chronic disease conditions (Nguyen and Park, 2021). There are multiple ways people can try to avoid and prevent their chances of chronic disease often by maintaining a healthy lifestyle. The main focus question throughout this research was how do chronic disease as a risk factor influence health behaviors of the aging population? The purpose of this study is to investigate the connection between the health behaviors of the aging population and the risk factors of chronic diseases.

Methods: Using a qualitative research method, this study analyzed data through interviews. Asking the aging group, specifically from ages 50-90 a set of ten questions. These questions collected information on their lifestyle, behaviors and attitudes towards their health and their experience or knowledge of chronic diseases. Interviews were conducted over phone, or in person. The data was collected individually and then transferred to Qualtrics. Which then was exported to Excel sheet that including all the answers from each person. From there a thematic analysis can be made from the patterns between multiple questions and the ages from each interview.

Results: 43% of the aging population had answered that they know someone or they themselves are affected by the conditions of chronic diseases. Almost all are aware of the increase risk of chronic diseases with age mainly from information from doctors. To which is noted that only two thirds of the population visit the doctor regularly. Physical exercise included mainly cardio and outdoor activities but was seen to decrease as the age increase due to mobility issues from aging. Which then led to dieting as often recurrence as major lifestyle change to prevent conditions of chronic diseases by 43.7%. The general feeling towards chronic diseases were fear, stress and anxiety to which then most had answered that they believe mental health has a connection to chronic diseases. Main motivation for continue a healthy lifestyle was encouragement and support from their families.

Conclusion: This study answers the question regarding the correlation between the aging population's health behaviors and chronic disease risks. Most if not all are mainly aware of how they are in risk as well as their loved ones from information spread and commonality throughout the nation and often was perceived in negative emotions. Yet it had proven to motivate the aging group to restore their health and maintain healthy lifestyle behaviors. Their main reason being so they can live a long and comfortable life for the time they have left. In some cases, no matter the health behaviors chronic disease is unavoidable. Further studies are needed to establish the relationship between one's health behaviors in their youth and how it has influenced chronic disease risks throughout aging.

Sylvia Jeffress

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Money and its Effects on Skin Cancer in the Aging Population

Our group decided to venture into the world of sunscreen and how elderly people use it and their education of how sunscreen can prevent skin cancer or help even if you have skin cancer. We came up with ten questions to ask an array of people aged from 50 and above. We all asked five individuals our questions about their skin care for sunny days and why people had not had skin screenings. Skin cancer incidences are at their highest in older adults. The rates for both melanoma and nonmelanoma have been on a steady incline in recent years in the United States. Sunscreen has been found to help prevent this as we see each generation get up in their years and use sunscreen more. The reason why skin cancer mostly affects those in the 65+ range is because of overexposure to Ultraviolet radiation. As you get older your skin accumulates more UVR damage and so by the time you reach your 50's or older you become more susceptible to skin cancer. This links with sunscreen because the more sunburns you get while you are young will build up that UVR damage and you will be at a higher risk of skin cancer. "Guidance from major public health organizations encourages using a combination of clothing, a wide-brimmed hat, broad spectrum sunscreen with a sun protection factor (SPF) of at least 15 or 30, and shade to adequately protect skin from the sun when spending time outdoors" (Holman S18) Using this recommendation can decrease the risks tremendously. However, the older age demographic has not been as targeted for this as much as younger people. It is just as important for people 65+ to follow this recommendation as it is for younger people. So, adults who have used sunscreen from an early age are at a much lesser risk of skin cancer than those who either only just started using it or still don't. Throughout our research, our group has concluded that those in older generations do not have the education about sunscreen and its effect on their skin. As for my conclusion, I have found that the cost of skin screenings or just seeing the specialists in general is very costly, and so many people in the older generations do not seek out help. Even I, a 20-year-old have not seen a doctor in over two years. Research however has shown that free skin screenings could save lives and more importantly educate those who are more at risk of skin cancer due to not having the education about the effects of sun exposure to the skin. On average, the cost of a skin biopsy is almost \$200 and the visit itself to a dermatologist is over \$100. This is through private insurance alone. Many elderly people have found it more cost-effective to just not be concerned about it or to accept their fate as money is everything in a capitalistic society like America.

Programs like the *Spot Me* Program seek to get people the skin screenings they need without costing them a dime. "With an estimated one in five Americans diagnosed with skin cancer during their lifetime, this program serves an important need by offering free screenings to high-risk individuals who may not be able to receive a screening otherwise." (Spot me)

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Kailey Jimenez

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Studying Mental Health in Older Populations

Introduction: In this project, the main research question was *What does Mental Health look like in the Aging Population?* The topic surrounded the older population and their thoughts and opinions on mental health, especially throughout the years. A more in-depth question created as research continued is *What are different methods that older generations use to better their mental well-being?* Some sources that support the information found would be a research article conducted by BMC Geriatrics that talked about how important different forms of activity would be for their minds (Parra, 2019), another article focusing more on motor activities (Pes, 2021), and another study that surrounded older people and took note of their activity during a certain period (Sanghavi, 2023).

Methods: The main method of gathering information was through interviewing adults between the age range of 40 the 90+. Interviews were either conducted over the phone, online, or in person while recording the information being said. That information was put into a survey where it was easier to track all the answers to the questions. Questions being asked were personal to the interviewee and questioned about their thoughts and opinions or the knowledge that they knew of topics surrounding mental health. After all the interviews were conducted, further analysis of each question asked was viewed to see if there were any themes or comparisons between each question.

Results: Key findings that were found were that older generations know more about mental health than what was originally thought, as research shows 30% of participants spoke of activities they participate in that help their mental health, 50-60% of participants had a general idea of what mental health was, and a certain question that asked about individual opinions on what advice they would give to younger generations, 90% of participants said it is important to acknowledge and receive help for any mental illness. Another important key finding was taking note of the type of activity and things older generations think to play a part in their mental health and well-being. 30% of participants stated they use self-care techniques and 57% of those interviewed also stated that diet did not affect their mental health.

Conclusion: With this new information new ideas of where older generations stand in the views of mental health can be brought out. This type of research is important because healthcare and other volunteer groups can take what this research study has found and create new ways to make sure that the older population's mental health is still being taken care of. It would also prove to be helpful if these interviews kept being conducted in the future to see if there have been any changes in views and what older populations think could be done better when it comes to their mental health and wellbeing.

Kiara Jimenez

Faculty Mentor: Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

How does mental health affect the aging population?

Introductions: In the decision of conducting research, the question was asked “How does mental health affect the aging population?”. An article called *Mental Health in family medicine, 10*, talks about how in recent years the older adult population has likely not acknowledged mental illness or how to access services relating to mental health issues (de Mendonça Lima, C.A, et al, 2013). This is due to their life experience, where mental health was promoted as a negative thing to deal with, especially from 1870-1970. Healthcare workers produced a negative representation of people who struggle with mental health (Long. V, 2015). Conducting this research study will allow us to gain a perspective on mental health in the aging population.

Methods: After creating a list of 10 questions, we found at least 2 participants in each decade between ages 50-100. The majority of the participant's interviews took place on a phone call. Where we asked questions that focused on their knowledge of mental health. Whether it's current/past, family history, and more. It was found that the questions needed to be reworded or asked in multiple parts so that the participants can give a deeper explanation of the question or gain a better understanding of what was being asked. Then once the information was gathered, it was placed in the Qualtrics survey system. This system was able to organize and label the data collected from the 29 participants in the research.

Results: All the participants stated that during their adolescent years, mental health was not discussed. Furthermore, the majority of participants stated, “no”, if they struggle with any mental health issues. However, when asked about symptoms of mental health issues like anxiety, a few participants showed symptoms of low to severe mental health issues. Another next question that was asked is if they currently receive treatment for their mental health, and 55% of the participants stated they did receive treatment, including self-care or professional help. Of the participants, only 5% speak to a therapist, and 20% receive medication. This led to 30% of the participants using self-care techniques to help their mental health. This includes religion and things that relax their mind (puzzles/meditation/music).

Conclusion: In conclusion, once the aging population is able to receive a better understanding of what mental health is and how it affects their lives, they are able to incorporate better habits into their daily routine to improve their well-being. A majority of the aging population had a difficult time identifying the signs of mental health. Adaptation to health care programs is needed when interacting with the aging population. In the research, healthcare professionals will gain an understanding of how to support the aging population when it comes to their mental health. Creating a positive change in their perspective and knowledge.

Jaeden Johnson

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

“Prevention and Treatment with Mental Health in the aging population”

Introduction: Health care treatment for the aging population has primarily been focused on one's physical conditions. Therefore, discussion and care with mental health has been lagging. For prevention of certain cognitive and behavior disorders, prevention programs have been discussed about implementing, but the focus remains primarily on sickness, disability, and disease treatment. (Leggett & Zarit, 2014, p. 45). In this study, research was conducted and collected about the conditions of mental health and what it looks like to the older generation.

Methods: Research for this study was collected by doing qualitative data analysis. The participants included age ranges from fifty years old to people in their nineties. Interviews were orchestrated over the phone, and they were asked several questions relating to their mental health. With the survey created the information on those questions with each participant was entered into the Qualtrics. The type of questions asked were about, history of themselves and their families mental health, the “stigma” around mental health, how they were currently feeling, and how they are or are not handling their personal mental health issues. After collecting all the information, the data was transferred to an excel spreadsheet, and analyzed using thematic analysis. Creating this spreadsheet visually showed common themes, codes, and patterns.

Results: The 2 questions that were analyzed were, “Has your family had any history of mental health-related issues, if so, what were the most common?” and “How would you describe your mental health now? (Irritable, depressed, content, anxious, unsure, etc.).” These two questions each were split into three themes then analyzed through that to find the patterns. The history of family mental health themes were, Stress/Anxiety, Depression, and cognitive disorders relating to loss of memory (Alzheimer's & Dementia). The results were, 41% of participants said that their family had a history of stress or anxiety, 36% said theirs had a history of depression, and 23% said their family had a history of a cognitive disorder relating to loss of memory. Eight participants had no knowledge of mental health struggles in their family. The data for these eight participants was not included in the overall percentage. The results from asking the participants about how their current mental health was, 66% of participants said they felt content, while 17% said that they felt anxious/stressed, or depressed/irritable.

Conclusion: Seeing the links between genetic history and how the participant was currently feeling was interesting. The dataset with family history was more evenly distributed, while the other spreadsheet had an outlier. This could possibly be due to the older generation and their stigmatization around mental health. Mental health issues tend to be under-identified by health care professionals and older people themselves and the stigma surrounding mental illness make people reluctant to seek help. (Gleeson et., 2019, 1467).

Nadia Johnson

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health Within the Elderly Population

Introduction:

Mental health within the elderly population has deteriorated over the years. Research shows that the older population majority suffer from a mental illnesses, but why wasn't this talked about enough growing up? My research question pertained to learning about mental health within the elderly community. A series of survey questions were asked and categorized within one another. For example, "What is your advice to give to someone dealing with mental health issues?" Or "What is your diet?" Many sources tell us that mental health among the older population continues to grow.

Methods:

Within this research project, we asked a series of questions pertaining to mental health and participants over the phone had to answer as best way they could. For example, "What is your diet?" or "What advice would you give to someone dealing with mental health issue?" Furthermore, the answers to the questions were categorized and compared to one another to then compare with scholarly journals. We exported the information into excel sheets.

Parra, D. C., Wetherell, J. L., Van Zandt, A., Brownson, R. C., Abhishek, J., & Lenze, E. J. (2019, December 23). *A qualitative study of older adults' perspectives on initiating exercise and mindfulness practice - BMC Geriatrics*. BioMed Central. Retrieved March 23, 2023, from <https://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-019-1375-9>

Results:

Comparing the information based the participants, the results came out to 90% of participants wanting to get help from a doctor or therapist and 10% want others to pray. About 70 percent of participants maintain a healthy lifestyle by exercising and 30 percent of the participants loves to be around their family to maintain a healthy lifestyle. 100 percent of the participants never talked about mental health.

Conclusion:

Mental health over the last couple years has had a rise within the population. The younger generation has the elderly population mental health needs to be taken seriously and be talked about more. Educating the older population of more on their mental health is needed.

Kate Jones

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

What Mental Health Looks Like in the Aging Population

Introduction: Today, there is a huge rise in mental health awareness. Knowledge is increasing and it is being normalized. The rise of mental health advocacy is extremely important for every age group, including older adults. Not only is this generation at a higher risk for physical health issues, but mental as well. This study aimed to understand what mental health looks like in the aging community. The approach taken covered the comparison of the subject's (ages fifty to ninety) knowledge on mental health today and in adolescent years, general knowledge of the topic, and personal experience with mental health.

Methods: Qualitative research was conducted for this study. Phone calls were performed, then typed answers were transferred to 'Qualtrics' where the answers could be reviewed and analyzed. The questions that were asked pertained to general knowledge of mental health, how subjects might tend to their mental health, how mental health was viewed in adolescence, and how the general view of mental health has changed since the subjects' younger years. Through thematic analysis, results from the study were inserted into an Excel spreadsheet, analyzed, then coded based on the theme of the answer. Conclusions were made based on a couple chosen main themes.

Results: One of the biggest take-aways from this study was the increase in knowledge, awareness, and acceptance of mental health in society. The older generation displays this perfectly, as they have lived through the change and may be considered most vulnerable to mental health issues (dementia, depression, etc.). When the interviewees were asked if mental health was discussed in their adolescence, at least 90% said no, while some added that it was very stigmatized or taboo. When asked about what they thought about mental health, there were some educational gaps, but also a good understanding of what it is. Over half of the answers pertained to well-being.

Conclusions: After this study, the conclusion can be made that the older generation knows more about mental health than anticipated. Also, it is clear that there is a direct relationship between time and knowledge/awareness/normalcy of mental health. With the results, about half of the aging population is being treated for their mental health. This may include seeing a counselor, taking medication, practicing a self-care regimen, or prioritizing physical health which in turn boosts their emotions. While these conclusions can be made, we still must acknowledge the few in the study that were on the opposite end of this: no knowledge of mental health or how to better it. This is expected in a study like this. Results will not be black and white and they none the less give general results where conclusions can be made.

Sai Kiran Kanduri

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The Impact of Physical Activity on the Aging Process

People's bodies change as they become older, including losing muscle mass, having less bone density, and being less flexible. Frequent exercise can help older persons maintain their general health and well-being. The responses also include improving mental health and lowering the risk of sadness and anxiety. In addition, exercise can benefit older persons with their memory and cognitive function. The article "The Advantages of Physical Exercise for Older People" emphasizes the importance of physical activity for older individuals' health and well-being, accessibility, and affordability. It also highlights the value of community programs and social support in encouraging older persons to engage in physical activity for healthy aging and preserving their independence and quality of life.

The survey uses ten research questions centering on physical activity, its effects on mental and social health, and its accessibility for people of all ages. They are designed to find out how much exercise people get on a weekly basis, what obstacles they encounter, and what benefits and drawbacks there are to exercising. Also, they look into the connection between exercise and reducing common health issues in older populations. It also asks about how the neighborhood might cooperate to promote accessibility and fitness and the difficulties involved in adopting physical activity into daily life as well as the mental and physical advantages of exercise. The interviews were conducted in person and answers were submitted through Qualtrics. Later on, the responses were downloaded as files and examined in a thematic analysis, and list out the most common responses that can further confine the research questions and possible situations that impact them.

The findings emphasize the value of creating welcoming surroundings that encourage physical exercise among older persons. Programs and interventions that address the survey's uncovered hurdles, such as expense, risk of injury, and lack of encouragement or support, may be successful in increasing physical activity levels in this demographic. About 30% of the responses said revealed a lack of motivation and body discomfort to incorporate physical activities into their daily routines. Around 75% of the responses show improved mental health making the older adults feel happy, reducing stress and anxiety, and increasing their confidence. To guarantee that physical activity is secure, efficient, and pleasurable, a more individualized strategy that takes into account the special requirements and preferences of every individual may be required. Therefore help groups and assistance can be beneficial.

In conclusion, Physical activity is conveniently and financially accessible to older adults. This has proved to be beneficial as most responses indicated developed health conditions by improving muscle strength and improved mental health. Most older adults show a positive interest in continuing them in the long run as this has shown resistance to pre-existing age-related health ailments. Another theme that can be drafted is Physical activity could make older adults prone to injuries. This has resulted in many people backing out fearing this could do more harm than good, pre-existing health conditions are potential barriers for a few to do physical activities. Most feel that proper assistance and care could be beneficial for them to continue or increase their regular physical activity routine.

Jeshna Kaparthy

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Physical Fitness and its Effect on the Aging Population

Introduction: The group's research project is concerning physical fitness and its effect on the aging population. The research question is: what are the positive and negative outcomes fitness has on the overall effect of the aging population? This issue is crucial, especially in light of the fact that COVID has made it difficult for many people to go outside and participate in any type of activity recently. In "Prevalence and Trends in Physical Activity among Older Adults in the United States: A Comparison across Three National Surveys" by Sarah Kozey Keadle, it is mentioned that 27.3% of adults aged 65 and up met the physical activity (PA) Guidelines of 150 minutes of moderate-to-vigorous fitness per week in 2013. More than half of the interviewed participants are dissatisfied with the amount of physical activity they engage in, which is significantly higher than the article's 27.3%. This demonstrates that, despite new disease preventative measures and an increased number of gyms or parks, the elderly do not exercise as much as health care workers anticipate. This has a detrimental effect on their health. Their bodies will become weaker because of little to no physical activity, making them more vulnerable to diseases and other illnesses.

Methods: Research was conducted by interviewing 5 older adults- each representing the ages of 50's, 60's, 70's, 80's, 90's- and asking them 10 questions regarding their physical fitness. These questions are: "how do you think our level of physical activity affects your overall mental and social health; how much physical exercise do you accomplish per week, and do you feel satisfied with that amount; do you experience any barriers in engaging in adequate levels of physical activity; do you believe physical activity is economically and conveniently accessible for you, explain; what factors encourage you to be more physically active, explain; how does working out make you feel physically and emotionally; do you think there are any disadvantages from regularly (e.g. 30-minute, 5x a week) engaging in physical activity, explain; do you think physical activity can prevent common health problems in the older populations, explain; do you face any struggles when trying to engage in physical activity in your daily life, and if so, what are they; what do you think are some of the advantages of engaging in fitness in the future overall wellbeing? (probe: medically, mentally, physically)." As the participants spoke, responses were written on Qualtrics- a website that has a survey with those 10 questions for submission- simultaneously as the participants spoke. Data was exported to google sheets and was organized with responses that had the most similarity at the top to the least at the bottom.

Results: The final themes are physical activity is both readily available and practical for the older population; however, many are dissatisfied with the amount of exercise they engage in and lack the motivation to work out more. Many people claim that walking is their preferred form of exercise. Exactly 80% of participants stated that physical fitness is very accessible to them; only 44% of participants stated that fitness is free of charge; and 76% of participants stated that motivation is their main factor for working out and staying healthy. More than 50% of the participants stated that they aren't satisfied with the amount of physical activity they accomplish per week.

Conclusion: Even though physical activity is easily accessible, it is insufficient for the elderly to stay healthy and fit. Fortunately, new technological interventions have allowed the elderly to work collaboratively with their physician on new fitness, dietary, and medication plans.

Kenzie Kennicutt

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Physical Activity and its Effect on the Aging Population

Introduction: In our research we decided to study the effects of physical activity and whether it can be a benefit or a harm to those in the aging population. Our research question was asking about the amount of physical activity one participated in, and seeing how that affected their life. We wanted to look at whether they were satisfied with that amount and if they think it benefited them in any sort of way. Studies had previously shown that exercise in the elderly population is very helpful and can help them have longer lasting lives. Not only would exercise help physically but according to the CDC physical exercise immediately benefit with “reduced short term anxiety for adults...and can help keep your thinking, learning, and judgement skills sharp as you age (CDC,2022). Based on these concepts we wanted our research to find out if all these concepts of physical exercising being helpful were in fact true in the ageing population.

Methods: We began our methods by writing out ten different questions we could ask our group of participants. There were five of us each doing 5 interviews so about 25 people participated in our research. We used a website that allowed us to insert all our questions and make it easy for our subjects to answer. We asked questions pertaining to the amount of exercise they participated in each week, as well as how that made them feel. We also asked if they believe that physical exercise is good for their body and can prevent future illnesses from occurring. We asked if working out was easy for them and if it wasn't, why they found it difficult. We asked about the different barriers of exercising and about how exercising made them feel mentally, physically, and medically. Most of the interviews were done online, meaning over the phone or we could send a link and have them fill out the survey themselves. As well as conducting some of the interviews in person. After getting our results we were then able to pull them from our site and compile them on a spreadsheet where we were able to find multiple themes within our data.

Results: In our results we found that most of the elderly population found exercising to be very beneficial for them. They believed it helped them feel more energized throughout the day and have a sense of purpose in their life. One of the major barriers we found to exercising as you age is that most of them already had preexisting health issues that kept them from being able to exercise regularly. About 80% of our survey participants stated that they felt exercising can be very healthy for them and can prevent further injuries. However, about the other 20% said they fear exercising too vigorously for fear of harming themselves further and felt as though they would only harm themselves from not being able to exercise correctly.

Conclusion: In conclusion we mainly drew that elderly people found exercising to be helpful but a lot of them were fearful of harming themselves. From this we can draw that in future healthcare educational interventions might help elderly patients realize the importance of exercising and understanding how to exercise properly would help them overcome their fears so they could reap the benefits of exercising daily. We found in our results that overall exercise can be very helpful for the aging population and if they are physically able to they should be exercising daily.

Marshall Knisal

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Physical Fitness in the Aging Population

Introduction: As the elderly population continues to grow, more studies are being conducted on the health of this population, how we can ensure continued health as people age, and how we can improve the health of those who have already begun aging. The purpose of this study is to analyze how the population of people from ages 50-99 view physical activity, how they participate in said physical activity, whether they are aware of the benefits of physical activity or not, and whether this population group feels encouraged and capable of performing physical activity.

Method: Direct and structured individual interviews to conduct a survey of this population group (n=25). The method of data collection used included one survey with a set of 10 questions that centered around collecting data relating to the goal of the survey. All survey responses were collected digitally, with some surveys conducted in person and some conducted not in person, and data collected was direct participant responses. A researcher was present to answer any questions the participants may have had, together with a disclaimer stated at the beginning of the survey as to how the participants could have any questions answered that their surveyor was not able to answer. Questions related to age of participant, frequency of physical activity, perceived benefits of physical activity in the realm of physical fitness, medical fitness, and mental fitness, and participant satisfaction with level of physical fitness they engaged in

Results: The results that we gathered from this survey in our group showed that a majority of our survey participants were well versed in the benefits that come with physical activity especially as one ages, and against my expectations, a majority of our 25 participants were actually content with the amount of physical activity that they engaged in. However, a concerning trend was notable that as the age of the survey participants increased, there was an increase in the number of participants who stated that they were not satisfied with the level of physical activity that they engaged in, and who believed that they would benefit from engaging in more physical activity, but believing that they are not able to do so.

Conclusion: The conclusion that I can rationally come to with the survey evidence that I have gathered is that we need to find ways to make physical activity cheaper, and more accessible for those who are older, as they likely need more help than their younger counterparts. Our data showed that the members of the older population were definitely aware of the benefits that come from being more physically active, but that as their age increased, the survey subjects were more likely to say that they were not content with the amount of physical activity that they engaged in. Physical activity is crucial for the health of our older population, so we must do whatever we can to encourage their physical fitness for their own health, safety, and longevity.

Sean Lawrence

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Exercise Perceptions and Barriers in Older Adults

Introduction: As life expectancy continues to rise, there is an increasing need to promote healthy aging and prevent age-related health conditions. Regular exercise has numerous health benefits for older adults, including improved physical health, mental health, and reduced risk of chronic diseases (Dugan et al., 2018; Rebar et al., 2015). The purpose of this study was to explore the positive and negative outcomes of fitness in the aging population and to identify the barriers and facilitators to exercise among older adults.

Methods: This study interviewed 25 individuals aged between 50 to 90 years. The participants were recruited through personal contacts and word-of-mouth. Each of the 5 group members interviewed 5 participants, one from each decade age group. The study used a qualitative approach to explore the perceptions and experiences of older adults regarding exercise. The questions consisted of 10 open-ended questions that explored the participants' exercise behavior, perceived barriers, and overall experience with exercising. The study participants were interviewed either in person or over the phone. The interviews were then input into Qualtrics. The data collected from the interviews were then analyzed using thematic analysis.

Results: Of the 25 participants, 100% recognized the benefits of fitness for their mental health, and 68% mentioned injury prevention. Out of the total, 19 participants (76%) considered exercise to be convenient and economically accessible. However, just over half of the participants, 14 individuals (56%), reported being satisfied with how much they worked out. This suggests that while most participants believe exercise is beneficial and accessible, almost half are not engaging in as much physical activity as they would like. Furthermore, 13 participants (52%) reported preexisting conditions or injuries as barriers to exercise, specifically mentioning discomfort or pain in their body as a significant barrier, while injuries and recovery time were also identified as barriers. Fear of getting hurt from working out was also a common concern, with many participants citing the stress placed on their bodies or a lack of knowledge on how to perform exercises correctly as reasons for their fear.

Conclusion: This study suggests that while many older adults recognize the benefits of exercise for their health, they often face barriers that prevent them from engaging in physical activity as much as they would like. These barriers include pre-existing health conditions, fear of injury, and discomfort during exercise. To promote regular physical activity among older adults it is important to address these barriers through education on proper exercise techniques and accessible exercise options for those in pain. By addressing these barriers, more older adults would be able to exercise regularly and experience the positive effects of exercise on their health and well-being.

Sandy Lee

Faculty Mentor: Kelsey Gardiner

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health throughout Different Generations

Introduction: Mental health is significant but is often under looked in older generations. The main question of this research is “How does mental health affect people of different ages, and different generations”. The growth in the aging population increases at a rapid rate, thus it is vital for society to have a deeper understanding of the process of aging and the impact it has on older individuals' health.

Methods: The study was focused within 50-90 years old individuals. Group members interviewed 5 people each, with a total of 30 interviews. Interviews were recorded through qualtrics, which then was analyzed. The platform, qualtrics, made conducting interviews easier as it was capable to see all responses accordingly to questions. Questions given were in correlation to personal perspectives on mental health such as “do you think mental health affects your personality.”, “do you engage in physical activities for your mental health.”, “is mental health seen as less valid in your generation.”, and “how do you think mental health affects your daily living”.

Results: Overall, final themes were invalidation, concealment and awareness. Invalidation: individuals feel as if their mental health is not valid because of their age. Concealment: since mental health is often overlooked individuals feel the need to conceal either their emotions or hide away in general. Awareness: since mental health is overlooked it's important to be aware, to find peace in acknowledging that someone or you need help. Results from the qualtrics, a few believed that people hide their emotions because of their mental health. 16% stated that mental health affecting personality varies, more dependents needed to be discussed. About 1/3 of the responses, with ages being majority in their 50s or 60s, stated that a lot of the time mental health is completely ignored or overlooked. The responses stated that this is typically due to a lack of understanding, age differences, stigma, and the subject not being talked about growing up and in the present.

Conclusion: Mental health in different generations have similar themes such as invalidation, concealment, and awareness. The people interviewed from the research survey claimed that mental health was never talked about growing up. Not having the familiarity of being able to talk about mental health growing up it seems invalidating for older generations to acknowledge it now. It's been explored that if older generations were able to discuss mental health growing up the stigma on mental health wouldn't be as negative. These findings impact the health field because it shows how we should approach older generations, to be empathetic. Next steps that could be taken is to have mental health programs accessible to older generations, have pro bono services to those who don't have insurance. Create programs that cater to older adults to promote awareness and other mental health services.

Hannah Lind

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Final Abstract

Introduction: Mental Health is the topic of this research project, with the overall research question of, “How does mental health affect people of different ages and of different generations?”. This project was focused on the effect of various mental health illnesses on different age groups and generations by asking a series of questions, that have now been narrowed down, based off of the overall question including: “Do you think your life experiences have impacted your mental health, do you believe mental health is seen as less valid for certain age groups, and how has mental health impacted how healthcare is provided to your generation?” In this article it is stated that in 2013, “More than 7,000 adults 65 and up died to suicide and mental health issues, which is 17.9%” (CDC, 2020). In the article it was also mentioned that since 2020, the rate of mental illnesses in adults 65 and older have only increased. The older generations struggle with mental health just as much as younger generations do. In an article from the CDC, it is stated that, “Mental health along with suicidal behaviors with high school students has been increasing in recent years by 40%.” (CDC, 2020). This topic was picked to get a different perspective on their personal struggles and opinion on mental health overall, as it isn’t talked about as much in the world currently.

Methods: This research was conducted through Qualtrics, a website that allows you to conduct surveys, polls, etc. and combine data into similar categories, make graphs, charts, and more. The instrument was developed by, as a group coming together to create questions relating to our overall research question and figuring out what questions would get the best, varying results and responses from each generation. Interviews were conducted in a few different ways: Some were conducted in person, others were conducted on the phone and transferred to Qualtrics, and others had just selected individuals to fill out their survey. The questions listed above are the three main questions used in the results, the other questions contributed to these. The data was transferred to an Excel sheet, where it was then analyzed using thematic analysis. With the use of thematic analysis, codes were able to be pulled out from each anonymous response to the questions and from these codes, created a common pattern that became overall themes from these responses.

Results: After conducting and analyzing this research, there were three overall themes that relate to our main research question and mental health as a whole. The three themes include: Childhood, Invalidation, and Burden. It was found that about 88% of older adults, specifically those in their 60-80’s, if they had experienced trauma, abuse, time spent in war, troubled home-life, etc. they struggled more now with mental health and dealing with past experiences. Another key finding was about 65% of older adults, specifically 70-90s, had stated that they didn’t feel as though their mental health was seen as valid because of their age and due to the fact that it wasn’t a common topic growing up. It was also found that in about 45% of older adults, around the ages 70-80, found themselves to be a burden when wanting to get help for their mental health in the healthcare scene; some feel as though they aren’t able to seek help because they will be less likely to be helped, which relates back to invalidation as well.

Conclusions: Now nearing the end of this project, these three themes and results do compare to exiting research regarding mental health in older adults. In a conducted study, it was found that “57% of the respondents had experienced stigmatization...Stigmatization did show a negative association with quality of life.” (Marja et. al, 2005). This expresses a very similar conclusion, that a large group of older adults struggle with stigmatization in their generation, and it impacts their daily life by not getting the help they need and ignoring the topic completely. If more healthcare professionals promoted mental health to older adults and tried to relieve the stigma for them, older adults could have a less negative connotation with mental health overall, and hopefully improve mental health in their daily living.

Natalia Lopez-Rodriguez

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Overcoming the Stigma Among Generational Differences in the Perceptions of Mental Health

Introduction: The relationship between age and mental health is a continuous study as our world experiences a higher demand for mental health advocacy for all individuals. The discussion of mental health has gained more attraction over the past generations as mental health disorders have affected one-quarter of the adult population worldwide (Coêlo et al., 2021). There has also been a worldwide increase in the aging population, making it vital to have a deeper understanding of the aging process and its impact on individuals' health, including mental health. This study aimed to understand the correlation among generational differences in developing varying perceptions toward mental health. This research project aimed to evaluate the stigmas and behaviors toward mental health in varying age cohorts to determine further implementations towards providing adequate support to varying generations.

Methods: Qualitative research utilizing the Qualtrics online survey tool to conduct individual interviews (n=30). The survey contained text-entry questions interviewing individuals between the ages of 50 and 90. All survey measures were collected in person and through phone calls with direct participant responses. A researcher was present to answer participant questions. Questions directed participants to reflect on their perceptions of mental health, life experiences, and generational differences. Data recorded in Qualtrics was exported and analyzed through thematic analysis to identify different themes and the coding relationships between those themes.

Results: The thematic analysis confirmed that participants demonstrated how the generation and experiences that an individual faces growing up can have an impact on their behavior and views towards the discussion and maintenance of mental health. The results from the thematic analysis concluded that two-thirds (n=30, 67%) of the respondents had answered that mental health is seen as less valid for certain age groups. The final themes collected from the data were invalidation, subjects feeling ignored, and age differences. Another reoccurring theme found was 13 out of 30 (n=30, 43%) participants commenting on how many people in their generation avoid seeking mental healthcare due to the belief that it is a burden to discuss mental health based on the connotations placed by certain generations.

Conclusion: The research and data provided through this study have confirmed the correlation between how the generational experiences that an individual faces growing up can have an impact on their behavior and view towards the discussion and maintenance of mental health. While existing research, healthcare systems, and associations advocating for mental health have improved in providing adequate information and resources, based on the findings across ages 50 to 90, intervention is needed to overcome the stigma among generational differences in perceptions of mental health. While many supportive interventions have been created, further discussion and educational sources could be implemented in a manner directed toward the needs of specific generations.

Kyle Lostroh

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Decades Interview Project Spring 2023

Introduction

As a group collaboration, we created a series of interview questions and then we used the questions we created to interview different people based on age groups. Specifically with this interview, we were looking to see mental health effects on the older population in comparison to the other generations. The questions asked were, How do you think the stigma around mental health and mental illnesses is different depending on the various generations? How do you think mental health influences personality? How do you think your mental health impacts your daily living? Do you believe that mental health is seen as less valid for certain age groups? Do you currently engage in any activities to maintain your own mental health? How has mental health impacted how healthcare is provided to your generation? Do you feel as if the generation you were brought up in has affected the way you view mental health? Do you think your life experiences have impacted your mental health? What do you think is the best way to reach older generations to talk about mental health and mental health resources? Do you think in the future mental health and mental healthcare targeting older adults will improve?

Methods

Each member of the group participated by formulating questions related to our topic and interviewing 5 people. Of the people interviewed, they were 50 years of age and up. The specific age groups are 50-60, 60-70, 70-80, 80-90, and 90+. Most people I interviewed were not good with computers, so they were interviewed in person. The answers given were written down and documented, then later submitted them into Qualtrics independently. This proved easier for this generation that was studied. The Data was transferred from all the people interviewed with the whole group on Qualtrics into an Excel document and documented themes depending on the answers given. This Excel chart made it easier to distinguish the themes associated with the research.

Results

The results concluded that there were many stigmas about mental health within the older community. Most of the answers were similar. It also brought to light the issue of not talking about mental health. Or mental illnesses being thought of as a weakness. Also, a group member noted some differences in answers depending on a person's political views. This is a topic I would be interested in researching further.

Conclusion

This research concludes that there are a lot of mental health discrepancies surrounding the older generation. The interviews made it clearer that the issues surrounding mental health are not just with the younger generations, but there are issues across all the generations. In the future, a lot of the interviewees agreed that mental health care would get better in the future and the start of addressing mental health is to talk about it. Providers of healthcare also can talk about mental health to their older patients and take it into consideration when caring for them. Overall, this project really coincided with other research that has been done on the topic. There is so much research left to be done in the future about Mental health and the older generations to accumulate more data on this growing topic.

Cade Martin

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Exploring the Complex Relationships Between Mental Health and Aging

Introduction: My group and I asked ourselves the question, “What effect does physical exercise have on the mental and physical health of age groups 50 to 90?” This question tended to turn into the mental health side because you can figure if you exercise your physical health will be good. We wanted to find, however, if physical exercise was a direct contributor to the 50 to 90 age range. We approached finding our answer to our question by a survey. The survey worked very well with 23 total respondents from all different age groups. (50’s, 60’s, 70’s, 80’s, and 90’s) Survey’s, however, can be problematic with vague or untruthful answers which was very possible with the questions being so personal. “Homebound older adults may be at risk of suicide due to elevated loneliness, social isolation, and depression.” (Matthew) This reinforces the importance of study. Those who are homebound we can assume either are sick, injured, or unable to be active. All of these lead to incapable of being physically active.

Methods: As mentioned before, our group decided to do a survey through Qualtrics. I know of many ways that we all sent out our survey to different people. These ways included, texted, emailed, or personally giving them the survey to complete. The methods that we used to develop our questions were trying to focus on our main question but answering small parts of the bigger picture. For example, “How do you think aging has effected your mental health?” This question was good for us because it still gives the recipient a choice of answering that it hasn’t affected their mental health. It doesn’t assume anything and is still specific. After collecting our data from many of our different questions like the one above, we directly downloaded the survey into an excel document and split up the questions to analyze and find themes.

Results: The final theme we ended with was that we could draw a direct relation from physical activity to mental health. We found that 50% of the interviewees ended up having a personal experience that made them take their mental health seriously. We also found that just over 50% of the respondents were physically active in some way. 40% also said that there were other ways they took care of their mental health, being spiritual, cooking, family, etc..

Conclusion: We set out to find out if there was a relationship between mental health and physical activity. Which turned into more of a mental health and physical activity focus. Our main findings included over 50% took their mental health seriously along with 50% being physically active. It could be possible we could draw a line between these two statistics.

Nyle Mathis

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The effect aging has on the mental and physical health of adults

Introduction: A study was done to discover how aging effects adults mental and physical health. The interviewees were asked “What are some ways you take care of your mental health?” Answers compared and also contrasted. Majority of the feedback given was from interviewees who’s answers were strictly physical activity. Others preferred relying on mental activity. **(Critical assignment #1&5)**

Methods: A variety of people between the ages 50-100 years old were interviewed via phone to discover how they feel aging has effected their mental and physical status. A few questions were what do they consider good and bad mental health as well as ways they take care of it. Notes were taken during the interview to capture answers then transferred to Qualtrics.

Results: “Exercise for Written Health” an article written by Ashish Sharma M.D., et al suggest that physical activity improves mental health by reducing anxiety, depression, and improving self esteem. While another article “Top 10 Benefits of Spending Time with Family” written by Dr. Todd Thatcher states face-to-face quality time with family can also reduce anxiety and depression. 18 of the 22 interviewees preferred physical health such as working out, yoga, cooking, etc. as well as shared why it was important. Meanwhile the remainder performed mental health activities such as faith as well as physical activities for instance, quality time with family. **(Critical assignment #5). (e.g. 50% of adults responded with... Critical Assignment #4).**

Conclusion: Aging does in fact have an impact on adults mental and physical health. People deal with these changes in numerous ways from workouts to prayer. One thing each respondent had in common was that they each do something to maintain their status. **(Critical Assignment #5)**

Charles McGraw

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Exercise and its Effect on The Aging Population

Our research question was “what effect does physical exercise have on the mental health of age groups 60 to 90?” We believe this to be an important topic to learn more about, which is only magnified by the research we did. Studies show that there can be massive physical, mental and emotional benefits by exercising past the age of 60. “Exercise can be considered an effective non-pharmacological treatment for depression in older adults. This result is especially relevant because late-life depression is a major societal burden, resulting in increased health care costs, increased risk of morbidity, suicide, cognitive and functional decline, as well as increased mortality (Schuch, F. B., 2016, p.7).

We decided the best way to research this was to develop a question set that would determine a baseline for what the participant considered good and bad mental health. Then we asked participants how they took care of their own mental health, and whether they believed exercise influenced their mental health. We interviewed participants in person and over the phone to gather their responses. After analyzing their responses, we were able to see common themes between the participants and gather a better understanding of mental health in the aging population overall. The two major themes we found in the responses are as follows “Spending time with family has a positive impact on mental health in the aging population”, and “Light to moderate exercise has a positive impact on the mental health in the aging population. We found that in almost every question we asked, one if not both themes were found in the response. 50% of the interviewees stated that light exercise in some form had a major positive effect on their mental health/wellbeing. The type of light exercise varies from walking, gardening, swimming, biking etc. but the results were the same, participants reported feeling better mentally after or during these activities. The second highest group with over ¼ of all responses mentioned spending time with family. Spending quality time with family had the biggest impact on mental health in 20% of all participants interviewed. After analyzing the results, we were little surprised at how important family was to the overall mental health of the aging population as it was a variable we hadn’t considered originally. But when we did some research from other experts in the field, we found that our experiment yielded similar results. “Our findings revealed that emotional support and decisional support from families were positively related to the living satisfaction of elderly individuals, while the relationship between daily living support and living satisfaction was not significant” (Wang L, 2020, p. 8). Research also supports the other theme we found in our research, an article called Exercise for Mental Health written by Ashish Sharma M.D., Vishal Madaan M.D., and Frederick D Petty M.D. Ph.D. states that physical activity reduces anxiety, depression, and improves self-esteem (Sharma et al., 2006). The data from our interviews supports this because majority of the interviewees shared that physical activity helps to improve or maintain their mental health. I think that finding the link between the two themes of family and exercise is a big finding. We haven’t been able to find any research that shows a direct positive correlation between the two. I think that this research has a positive impact in the field overall as it allows the opportunity for exciting new research to be done in the name of helping the aging populations mental health. I propose that in the future, research be conducted that would combine one group with both of those aspects against a control group with none, to see if significant improvements to mental health can be seen. This can be conducted by having participants do light physical exercise with their family present. This could be taking a walk as a group, bike rides, gardening, group yoga etc.. This could also be tested against a group that just did light physical exercise and a group that just spent time with family to see if the combination of the two had a more significant impact than just one or the other. This type of research could help unlock some of the mysteries of the human psyche and help provide us better and more natural treatments for the mental health of the aging population.

Rafia Mehmood

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What effect does physical exercise have on the mental and physical health of age groups 60 to 90?

Introduction: The research question chosen is, “What effect does physical exercise have on the mental and physical health of age groups 60 to 90?” This topic was of interest because it is important to understand and study what life looks like for older adults in order to empathize with them. Researching physical activity and how that affects mental health specifically was important since health habits and health routines are different for everyone. It has been stated that, “Physical exercise has also been shown to boost your mood. In 2019, a study showed that men, aged 65 and over, followed a program of various physical activities and it was found that it stimulated muscle-generated mood boosters such as serotonin” (Madaan et.al, 2006.) Therefore, it was necessary to dissect the mind body connection and how it manifests in older adults aged 60 to 90.

Methods: Qualitative methods were used to conduct this research. Open-ended questions were asked and were broken down as follows: the first four questions were asked about mental health, the next three about physical health, and the last three about personal perspectives. Questions were asked then transferred to a Qualtrics survey. One question in the beginning was asked to compare/contrast participants' prior definition of good vs bad mental health to gauge perspective. Then, questions about their daily activities and other factors affecting their mental and physical health were asked. Data was analyzed through thematic analysis.

Results: Final themes included family, loss of hope, positivity, negativity, isolation, faith, meditation, etc. Key findings included that family issues and work stress are directly related to mental health issues. These themes were used to gauge how much people were willing to focus on physical activity and themselves individually. 23% of our participants emphasized the importance of having good family ties based on question 3. 36% of participants also stated that it was difficult for them to keep up with physical exercise as they got older. Additionally, within the aging population, it was specifically found that ¼ of participants felt their mental health improved when family ties were good.

Conclusion: In conclusion, the themes of family and stress were found to be the most prominent in determining whether mental health declines or prospers. Next steps could be creating an initiative to improve the physical activity habits of the elderly in their own homes, within nursing homes, and other healthcare facilities. Consultation by geriatric healthcare professionals, physical therapists, occupational therapists would also prove to be beneficial in determining what the elderly population needs as a whole regarding physical and mental health.

Alondra Mejia

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The Effects of Physical Activity on Older Adults: Research on Mental and Physical Health

Introduction: This research project is a study conducted to observe how exercise impacts older adults mentally using the question “Do older adults receive benefits of mental and physical health with exercise?” In the topic of health of older adults, mental health is often not discussed. Within the suggestions of physical activity, often the benefits are not highlighted. Though, many studies have shown results of different methods to observe how physical health and exercise helps older adults like in Dance, Music, and Social Conversation Program Participation Positively Affects Physical and Mental Health in Community-Dwelling Older Adults: A Randomized Controlled Trial, where a ten week trial program was introduced of different social and active activities in community centers for older adults. In this study, they found that the participants in groups with instruments and danced, showed cognitive improvement along with actively learning and listening(Ambegaokar et al., 2022). Other studies that have helped with more focus on physical health are ones like the study Effects of Yoga and Aerobic Exercise on Wellbeing in Physically Inactive Older Adults: Randomized Controlled Trial, where a study researching the effects of yoga and aerobic exercise was conducted on different groups of people within a program of twelve weeks. The study explains that in their results, aerobic exercise and yoga intervention gave positive effects on their wellbeing and a medium magnitude estimated in wellbeing(Welford et al., 2022). The study that was conducted to answer the question, “Do older adults receive benefits of mental and physical health with exercise?” is to imply how the older adults are doing in physical activities and exercise and what benefits and observations are able to be seen within what they do in their everyday lives.

Methods: In this study, a short ten question face-to-face interview was conducted on older adults ranging from ages 50 to 90 using qualitative questions. These questions focused on the physical activities that were done by the participants in their daily lives. They were also asked about their thoughts on physical activity in their lives and if they felt a difference in mood or emotions without these activities.

Results: The results of this study showed that over 90 percent of the participants felt benefited from exercise and physical activity. Over 55 percent of the participants explain that exercise and physical activity is a key factor in maintaining good health. Themes of stress improvement were shown in 60 percent of the responses when asked about benefits that result from exercise. About 40 percent said they have a positive mindset and improvement of wellbeing as a benefit.

Conclusions: The overarching theme of this study is older adults have found themselves feeling better and see improvement mentally with exercise and physical activity. Along with many other studies, there are similar positive results that can be used to help older adults with their health. These results can be used to allow a depth research on how exercise and physical activity can be used to help older adults throughout time.

McKenzie Moburg

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Final Abstract

Introduction: The connection between exercise and mental health in the aging populations has been an ongoing topic in the past and present day. Studies have shown the impact that exercise can have on mental health and the benefits the aging populations could seek. This study used the research question “Does exercise affect mental health in the aging populations?” This study is aimed to gather data to analyze the thoughts and opinions of the aging populations. A couple of the research questions included in the study were, “Do you believe exercise is a key factor in maintaining good mental health and why?” and “Do you see a difference in mood or expression when you are not exercising?” A scholarly source that supported the importance of this topic included: *The Effects of a Short-Term Exercise Program on Movement, Pain, and Mood in the Elderly* (Ross, Candice et al., (2010).

Methods: This research study is conducted by using an interview approach to acquire qualitative data to get the utmost accurate and thorough results. The research instrument was developed by creating an online survey of ten research questions relating to the main research question. The first question determined their ages before beginning the survey to establish what age group was being interviewed. The most efficient method to conduct the interviews was through the phone. The interviews consisted of five people of all different ages in the aging population and they were interviewed with the ten research questions. After the interviews, the data was gathered and entered into the online survey through Qualtrics. The last step was to export and analyze the data through an excel spreadsheet so all the responses were visible at one time.

Results: After analyzing the responses and data from the interviews, the results established many themes that summarized my overall study. These themes included that exercise brings overall better energy, decreased tiredness, mood enhancement, less irritability, and remains more focused throughout the day. Analyzing the responses helped form the conclusion that about two-thirds of respondents believed to be less focused when they cannot take a break to exercise or have some sort of physical activity throughout their day. Some participants described it as having more “anxiousness” or “irritability” while going through their day with no exercise or physical activity.

Conclusions: Overall, this study helped deepen the understanding and knowledge of the effects exercise has on health aspects of the aging populations. Researchers have established theories about these findings before so to find out that some of them were true is very interesting. Future researchers and people who work in the healthcare field could take steps toward determining if these same results of “better energy, decreased tiredness, mood enhancements, and less irritability” have the same effects in the different types of genders, ethnicities, and older aged groups in larger numbers.

Allen Mukeba-Kasanda

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Final Abstract

Regular exercise has various mental health advantages, such as reducing anxiety and depression symptoms, enhancing mood, self-esteem, and overall well-being. The release of endorphins during exercise creates a natural sense of well-being and helps reduce stress and anxiety. Exercise provides a sense of accomplishment and control, reducing feelings of hopelessness and helplessness. Additionally, exercise can improve overall well-being by lowering stress, improving sleep, and increasing energy levels, all of which contribute to better mental health. Furthermore, exercising can be a social activity that provides opportunities to connect with others and combat loneliness or isolation. Consequently, incorporating exercise into your daily routine is critical for maintaining good mental health, whether it involves walking, yoga, or weight lifting. Exercise also enhances physical health by increasing cardiovascular strength, endurance, and overall fitness, reducing the risk of chronic illnesses such as diabetes, obesity, and heart disease, managing weight, enhancing cognitive function, including memory and concentration, and improving mental health and overall well-being through social interactions. In summary, exercise is essential for maintaining a healthy body and mind, and enhancing the quality of life.

As a high level basketball player, I can relate to the importance of exercising for mental health. Not only does regular exercise keep me physically fit and help me improve my game, but it also has a positive impact on my mental well-being. Basketball can be a stressful and high-pressure sport, and exercise provides a healthy outlet for me to release that tension and anxiety. When I'm on the court, I'm able to focus on the game and let go of any other worries or stresses that may be weighing me down. Overall, as a high level basketball player, I recognize the importance of exercise for both physical and mental health. It helps me manage stress, maintain focus, and stay motivated, and provides opportunities for socialization and connection. Incorporating exercise into my routine is crucial for my overall well-being and helps me perform at my best on and off the court.

For the methods, I developed my question with my group, we discussed them and they were made on "Qualtrics". I am more comfortable with working on my laptop in terms of Qualtrics and sharing documents. To finish all this, I exported the data by using thematic analysis.

Based on the analysis of individual students, several themes emerged regarding exercise. One of the most prominent themes was the barriers that prevented students from incorporating exercise into their lifestyle. Physical limitations due to age or health conditions, lack of motivation, lack of time, and financial constraints were reported as common barriers. On the other hand, many students identified motivators that encouraged them to exercise, such as improving overall health, weight loss, social support, mental health benefits, and a desire to maintain independence in older age.

The types of exercise that students engaged in were varied, including walking, gym workouts, yoga, dancing, biking, kayaking, and gardening. Many students also incorporated exercise into their daily routine by walking their dogs or engaging in physical activities with their grandchildren. Social support was identified as a significant factor in staying motivated and consistent in their exercise routine, with many participants reporting the importance of having a workout partner or participating in group fitness classes.

Finally, some students sought out personalized exercise programs, such as working with a personal trainer or participating in specialized classes like spin class or bocce ball. After consolidating similar or overlapping themes, the final themes included barriers and motivators to exercise, types of exercise, and personalized exercise programs. Overall, these themes highlight the importance of understanding the factors that influence exercise behavior and the need for tailored exercise programs to meet individual needs and interests.

Based on our conclusions, we found that our findings aligned with previous research that has found that social support and personal motivation are key factors in maintaining consistent exercise routines. One study by Chou et al. (2021) found that older adults who engaged in group-based exercise programs were more likely to maintain consistent exercise routines and experience positive mental health outcomes. Similarly, another study by Devereux-Fitzgerald et al. (2019) found that personalized exercise programs, tailored to individual needs and interests, were effective in improving exercise adherence and overall health outcomes.

Given our findings, we believe that healthcare providers and community organizations should focus on creating more personalized and group-based exercise programs to encourage regular exercise in older adults. This could include working with personal trainers, joining community fitness classes, or engaging in recreational activities with others. Furthermore, we recommend that future research explore the impact of different types of social support, such as online support groups, on exercise adherence in older adults.

In conclusion, our study found that social support, personalized exercise programs, and various types of exercise were important factors in encouraging regular exercise in older adults. These findings have implications for the development of interventions and programming to improve health outcomes and promote exercise adherence in older adults.

Logan Mukeba

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Final Abstract

Mental health is crucial to overall well-being and a fulfilling life. It is the state of our psychological and emotional well-being, and it affects how we feel, think, and behave in our daily lives. Mental health issues, such as anxiety, depression, and stress, can have a significant impact on our quality of life, relationships, work, and physical health.

Exercise has been linked to improved mental health in numerous studies. Physical activity can help reduce symptoms of depression and anxiety, improve mood and self-esteem, and reduce stress. Exercise releases endorphins, which are natural chemicals in the body that create a sense of well-being and happiness. It can also improve sleep, which is essential for maintaining good mental health.

However, exercising can provide a sense of accomplishment, which leads to increased self-confidence and self-esteem. It can also offer opportunities for social interaction, such as participating in group exercise classes, which can help combat social isolation and loneliness.

All my reasoning is why I opted for mental health questions. Mental health is important to me because it affects every aspect of our lives, and exercising can be a beneficial tool for improving mental health. By engaging in physical activity, we can totally change our mood in a positive way, reduce stress, increase self-confidence, and improve overall well-being.

For the methods, I have done my work with my laptop this whole time and it worked perfectly so I kept doing that. All the questions that we have developed were made on the app “qualtrics” and the way I was sharing the survey was always from my laptop.

Finally, to export and analyze the data, I used thematic analysis. The individual student analysis yielded the following themes: barriers to exercise, motivators for exercise, types of exercise, social support, and personalized exercise programs. Barriers to exercise included physical limitations, lack of motivation, lack of time, and financial constraints. Motivators for exercise included improving overall health, weight loss, social support, mental health benefits, and a desire to maintain independence in older age. Participants engaged in a variety of types of exercise, including walking, gym workouts, yoga, dancing, biking, kayaking, and gardening, and social support helped participants stay motivated and consistent in their exercise routine. Some participants sought out personalized exercise programs, such as working with a personal trainer or participating in specialized classes.

After consolidating similar or overlapping themes, the final themes were barriers and motivators to exercise, types of exercise, and personalized exercise programs. Our conclusions were supported by previous research that found social support and personal motivation to be key factors in maintaining consistent exercise routines. Studies have also found that group-based exercise programs and personalized exercise programs tailored to individual needs and interests were effective in improving exercise adherence and overall health outcomes.

Based on our findings, we recommend that healthcare providers and community organizations focus on creating more personalized and group-based exercise programs to encourage regular exercise in older adults. Future research should explore the impact of different types of social support, such as online support groups, on exercise adherence in older adults. Overall, our study highlights the importance of social support, personalized exercise programs, and various types of exercise in promoting exercise adherence and improving health outcomes in older adults.

According to research conducted by Chou et al. in 2021, participating in group-based exercise programs was associated with higher rates of consistent exercise routines and positive mental health outcomes among older adults. Additionally, Devereux-Fitzgerald et al. conducted a study in 2019 that found personalized exercise programs, customized to the specific needs and interests of individuals, were effective in improving exercise adherence and overall health outcomes.

In conclusion, the importance of mental health and exercise in promoting overall well-being cannot be overstated. Research has shown that exercise can help reduce symptoms of anxiety and depression, improve mood, and increase self-esteem. Personalized exercise programs and social support can be key factors in maintaining regular exercise routines, particularly in older adults. Group-based exercise programs and personalized exercise programs tailored to individual needs have been shown to be effective in improving exercise adherence and overall health outcomes. Healthcare providers and community organizations should prioritize these approaches when developing exercise programs for older adults.

Constantin Musteata

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Exercise is key to a good mental Health

Introduction: Exercising is really necessary for maintaining good balanced mental health. Studies have proven that exercising almost every day could make someone live a lot longer than a person who sits around all day and does nothing. The purpose of this research study was to understand the importance of exercise and why it is a good way to maintain a good healthy life among old people.

Methods: Collecting primary data involved a survey of a few questions for the interviewers to answer. All the survey results were collected online, using a document shared with the participants. All questions were mainly about the importance of exercising and what effect does exercise have on their mental health.

Results: Participants all agreed that exercising is a huge factor of keep good mental health. Participants self-reported a higher rate of rather walking than going to a gym. The survey results explain the relationship between mental health and exercise and what role each of these plays in people's life. The survey results show that most people do enjoy exercising and helping them with their mental health. It is also shown that others say exercising helps them more with their physical health, with no mention of mental health. The results show that people struggle to keep a routine and it is hard for them to go outside and want to exercise because they are either too tired to do it or not in the mood.

Conclusions: Exercising definitely has a huge positive impact on people's mental health. As people get older, their mood also changes. The body changes over time and when it gets old, the organs start working slower and make old people not want to exercise. Exercising is also used as a distraction from all the depression and loneliness people experience as they get older. As many people learn how important it is to exercise, then everyone will start feeling better about themselves and will be able to live a life without anger, weird moods, or any other factors that could cause harm to a person.

Mackenzie Nastav

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Aging Population View on Mental Health

Introduction: Older adults between the ages of 50 and 99 were surveyed to answer the question, “What are older adults' views of mental health and what prevents them from receiving needed help?”. Many of the participants gave similar answers when surveyed. An overarching theme throughout the research involved stigma. Older adults are, “ more likely to stigmatize and harbor misconceptions related to mental disorders, which affected their use of mental health services,” (Park et al, 2015).

Methods: In order to capture data, a survey was put together on qualtrics consisting of ten questions based off of the research question. The participants were asked questions such as “How would you describe the importance of mental health for your generation?”, and, “What challenges do older adults face in accessing mental health services?”. These surveys were conducted in interview style in person and over the phone.

Results: There were four common themes found throughout the results. The first was that many older adults have little to no knowledge of mental health. Over 50% of the 26 people surveyed have never received help for mental health and simply do not understand what it is because it was not talked about in their youth. Another common theme was with barriers. Sigma, accessibility, and affordability were listed as the three most common challenges faced with receiving mental health help. Around 35% of participants stated that a barrier to accessing mental health services is the stigma surrounding it, followed by insurance coverage and lack of information with around 24% each. Finally, 98% of respondents said that they believe mental health can be improved in the communities frequented by older adults.

Conclusion: The barriers which older adults face in receiving help for mental health issues are easily overcome. Information can be provided by pastors, nurses, and activity coordinators in the communities which older adults frequent. This act of speaking openly about mental health with older adults will decrease the stigma surrounding it, and make them more comfortable with reaching out for help.

Joy Nevarez

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Mental Health Service Barriers for Senior Citizens

Introduction: This study provides information about the barriers that senior citizens currently come across when wanting to access and obtain mental health services such as negative perceptions/stigma and lack of knowledge. Whether that be by childhood customs and traditions, or simply the deficiency of knowledge about what mental health is. This conclusion started from the research project first formed as a group and later changed into an individual project, within the Health Issues in Aging class at the University of Missouri-Kansas City. The project consisted of reviewing, drawing conclusions, and overall analyzing what the results meant from two survey questions. The two survey questions were first “Tell me what you know about mental health?” and second, “What perception did you have of mental health issues growing up?”. These two survey questions were originally derived from the initial research group question, “What was the mental health perspective for older generations compared to younger”.

Methods: The study was conducted by forming survey questions that would produce the answers needed to support the previous research question “What was the mental health perspective for older generations compared to younger”. Then the final ten questions were divided into two main questions per group member. The method to collect data was by conducting qualitative interviews with one senior citizen per age ranging from 50, 60, 70, 80, to 90 years of age to provide enough general data. The interview was then conducted by using face-to-face interaction and a phone voice recorder with senior citizens at local senior centers in the Kansas City area. After the data was collected, the answers were converted into text, which was then transferred into the Qualtrics survey system. After the transfer, the data was converted into a thematic analysis method using the Excel software program.

Results: The results were categorized into two main themes, negative perception/stigma, and lack of knowledge about mental health. In the first survey question, the participants were asked what their thoughts were about mental health; more than 80% of participants correlated mental health with negative conditions or defects. Such as brain defects, stress, or an overall poor state of mind. As one of the participants stated, “Mental health is something wrong with your brain”. The second survey question asked what perception they had about mental health growing up. More than 75% of the participants stated that they did not know about mental health during their childhood. For example, one of the participants mentioned the following, “It was never discussed. It was never something that was brought up and talked about”.

Conclusion: Barriers that seniors face when wanting to access and accept mental health help are common and still exist. This study demonstrates results supporting that claim by more than 75% of senior participants. A study by Polacsek, M., Boardman, G. H., & McCann, T. V (2018) mentions that the high and frequent prevalence of seniors rejecting to seek mental health help is due to negative exposure and stigma to what little; to poor knowledge they have of what mental health is. Mental health is important and is a form of medical help that all humans are entitled to. The hope is to provide firmer awareness and quality action toward helping the senior citizens who find it hard to be an advocate for their mental health.

Justin Nguyen

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health Perspectives in the Aging Population

Introduction: This research project will investigate the mental health perspectives in the aging population. It is important to investigate this because it can help researchers find early warning signs for physical and mental problems. Mental health is primarily overlooked by professionals and has created problems in the aging community. In previous studies, it can be seen that the older people perceive mental health as a sign of weakness (de Mendonça Lima & Ivbijaro, 2013). This research project can be used to shine line on the current attitudes of older adults 10 years later.

Methods: For this research project, an interview was conducted asking older adults about their mental health experiences and belief. There will be a total of 25 participants ranging from ages 50 to 90. The interview consisted of asking the interviewee their experiences dealing with mental health problems. Additionally, the interview consisted of question that encourage the interviewee to produce ideas that promote mental health awareness. Finally, interviewees were asked to compare their experiences with mental health when they were young to today. Interviews were conducted over the phone and in-person. All the responses were recorded on Qualtrics. After interviews were conducted, the interviewees answers were carefully looked at using thematic analysis.

Results: The most common themes were a change in stigma, lacking knowledge about mental health disorder, and friends and family. Many participants believed that the stigma to access mental health services has reduced greatly. However, they lacked the knowledge about mental health. This hints that the stigma exists to this day. Finally, 53% of the participants believed that using friends and family can encourage people in their generation to seek mental health help. Additionally, more than half of the participants had little to no knowledge of mental health issues and a quarter incorrectly described mental health. Furthermore, half of the participants believed that the stigma they grew up with has changed. 48% of them believed medical professionals are taking mental health more seriously.

Conclusion: From the results, it can be seen that the older population has high hopes for mental health awareness. They believe that it is a necessary thing to study and important as physical health. But it is also shows that the stigma the participants grew up still exists today. As previously stated, this research can help give a current snapshot of what older adults think about mental health. Additionally, this research can potentially help improve mental health treatment by incorporating friends and family to support patients.

Katie Noble

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Mental Health in the Aging Population

Introduction:

The topic for this research project is the mental health perspective for older generations in comparison to younger generations in the United States. The research questions used in the interviews were all about the amount of access to mental health for the older generation and if people from different age groups had ever experienced any type of mental health issues and how they dealt with it.

Methods:

The research was conducted through the qualitative method. The types of questions that were asked were Tell me what you know about mental health, What perception did you have of mental health issues growing up, Have you ever received professional help for your mental health, Do you think as time has evolved it has changed the way that people view mental health, How would you describe the importance of mental health for your generation, What might motivate someone from your generation to work on improving their mental health, What challenges do aging adults face in accessing mental health services, Is the younger or older generation more accepting and open to mental health disorders, What, if any, barriers exist to seeking mental health help, and How do you feel mental health care for older adults could be improved within the communities you frequent. The interviews were conducted over the phone and then were transferred to Qualtrics and were analyzed through thematic analysis.

Results:

The final themes were Lack of knowledge, Barriers, Improvement, and Symptoms. A Little over 50% talked had the importance in there, $\frac{1}{3}$ of the people talked about how important it was to get help when it was needed and 50% of people said that people their age needed to do whatever or that mental health lacked when they were older and wasn't talked about as much as it is for the younger people today. About $\frac{1}{3}$ of people said that family could motivate someone to go out and seek help while $\frac{1}{4}$ of people said that the hope of a better life could motivate them to seek help and $\frac{1}{5}$ of people said that friends could motivate them to seek help to get better and healthy.

Conclusion:

These findings could impact the health field because this could be something that gets implemented more into the yearly checkups or just for people who go in for anytype of check up. Mental health should be something that is prioritized when it comes to the health field because it is more important than some people think or make it out to be. The next steps that the field could take are putting more options out into the community to give people free or cheaper care for their mental health when they need it. They could even just put something out that gives more information on mental health and what to do if you find yourself struggling.

Emma O'Dell

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Perception Of Mental Health In Older Adults.

Introduction: The topic for our research project was mental health in older adults, we used the question “What are the cultural and societal factors that impact the mental health of older adults, and how can these be addressed to improve mental health in those aged 65 and older?” as our research question to form a survey that explored this topic. The reason why this research topic was important was because of the perceived importance of mental health, we also felt that gaining insight into the perceived barriers to accessing mental health resources would help draw attention to these barriers so that they can be eliminated. The Pan American Health Organization has an article that discusses how a lack of education and exposure to mental health might lead to a more negative perception of mental health. Mitchell, C., & <https://www.facebook.com/pahowho>. (2014, September 4). *PAHO/WHO /Seniors and Mental Health*. Pan American Health Organization / World Health Organization.

https://www3.paho.org/hq/index.php?option=com_content&view=article&id=9877:seniors-mental-health&Itemid=0&lang=en#gsc.tab=0Links to an external site. and we also found an article that talks about how insurance and financial stability are two of the perceived barriers to accessing mental health resources. authors, A., & Weinberger, M. I. (2022, December 23). *Perceived barriers to mental health care and goal setting among depressed, community-dwelling older adults*. Taylor & Francis. Retrieved March 15, 2023, from <https://www.tandfonline.com/doi/full/10.2147/ppa.s5722>Links to an external site.

Methods: As a group, we formed 10 questions that were relevant to our research question. The questions asked about the participant's perception of mental health growing up, their knowledge of mental health, if they've ever received professional help for their mental health if they think that the perception of mental health has changed in their lifetime, the importance of mental health for their generation, what they think would motivate them to improve their mental health, what challenges or barriers they face when trying to access mental health services, if the younger or older generation was more accepting of mental health, and how they feel that mental health care could be improved. We also asked the participants their ages. There were 26 recorded survey responses. I personally wrote all my participant's responses down and then transferred them to Qualtrics, but group members entered their survey responses separately from the rest of the group. We then took the responses and analyzed the data using thematic analysis.

Results: The final themes that we found to be the most relevant to our research question were the perceived barriers and challenges to accessing mental health resources, the perception of mental health growing up, and the responses to the question relating to how mental health care could be improved. A little over 80% of the participants said that there were barriers to accessing mental health resources, the most common barriers listed were financial, problems with insurance coverage, and questions about knowing where to go for mental health help. 96% of participants listed ways that we could improve mental health. The most common responses were communication with others like family and friends, the other was more external solutions, such as accessibility to information, physical locations, and qualified physicians. The last theme was the perception of mental health issues growing up, almost all the participants listed that they didn't have a perception because of a lack of exposure and knowledge.

In conclusion, there are barriers to accessing mental resources. I feel that we should look at the listed perceived barriers and find ways to eliminate these barriers, while also looking at the list of ways we can improve mental health care provided by the participant's responses and see how we can implement them into health care and everyday life. We should also look at how education and exposure to mental health issues can be improved.

Diamond Ogunsiji

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Chronic disease in the aging population.

Introduction: Chronic disease is a health condition that can range differently in its impact on each individual. Which can be as risky as heart disease, diabetes or more. As we all know the aging population are more vulnerable to chronic disease. My research question will be “how do chronic disease risk factor influence health behaviors of the aging population?”

Methods: For this research, the best option suggested was to talk to the people involved in the research. We asked the aging population directly and hear them out. With helps and guidance from the professors, my team concluded on ten questions to each interview the aging population with. The questions were related to our research questions. My group consist of five members, each member were to interview five different people. The total number of responses we got were about fifty from each person, making it roughly two hundred and fifty responses. Everyone in the team were responsible to record their data on Qualtrics. With the information saved on Qualtrics, we were able to organize and analysis everyone’s responses and transport them into excel. On excel, we summarized a lot of similar responses into “themes”.

Results: Although they were a lot of main themes from each individual analysis, but they can be summarized into three different main categories. These categorizes include: their knowledge on chronic disease, the relationship between mental health and chronic disease, and lastly their activities/steps taken toward better health. When asked about what they know about the connection between aging population and chronic disease, most of the responses were not detailed but very simplified. A lot of them understood that it’s riskier at an older age. This is a very important knowledge because awareness is important to take actions. This connects us to the next theme, regarding the activities taken toward their health. The most common responses were “healthier diet”, “exercises” and “medications”. For this category we asked, “Based on your knowledge about chronic disease and aging, has that impacted your daily health behaviors?” The highest option was “getting a better diet” with 37.5%. Next, will be “cautious approach” with 34.4%. Then no change with a 25% and lastly exercise with a 12.5% .

Conclusion: This could help and suggest for more ideas that can be taken in creating a more welcoming environment for older generations. Although effects have been made to spread more awareness regarding this, there should be more programs and events focused on helping the aging populations and getting them to share more interaction with the society if they wish so.

Manavjit Parmar

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Chronic disease effects on mental health

Introduction: My research topic is chronic disease effects on mental health. Some questions are;
Question 11: What kind of emotions do you feel when thinking about chronic disease? Question 12: Do you think there is a connection between mental health and chronic disease? Explain.

Methods: I used two methods to conduct my interview. The first is in person and secondly it was online. For both I wrote down their responses on a doc than transferred it over to qualtrics.

Results: Final theme is chronic disease's negative effects on mental health. Majority of the responses to question 11 pertained towards stress, anxiety and other unhealthy emotions.

Conclusion: Final results came back as predicted many who experience some sort of chronic disease often deal with a backlash of emotions. It will have a impact on how chronic diseases are dealt with as there might be a protocol regarding mental health alongside with said disease.

Kassandra Perez

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How do chronic disease risk factors influence health behaviors of the aging population?

Introduction: Chronic diseases affect more than half the population in the United States (Boersma, 2018). These diseases can range from arthritis, asthma, diabetes, hypertension, heart disease, and more. It was found that in adults aged 55 to 64, about 78% suffer from a chronic disease and in adults aged 65 and older, that number rose to about 90% (Nguyen and Park, 2021). The population of adults living with chronic disease is significantly higher after the age of 55. Although many of these diseases cannot be cured, many can be prevented and treated with living healthy lifestyles. In that context, the following question was posed: How do chronic disease risk factors influence health behaviors of the aging population?

Methods: To answer this question, a qualitative set of interview questions was developed. Adults aged 50 to 90 years were interviewed over the phone and in person with a variety of questions varying from their knowledge on the subject, to behaviors they carried out, and risks they believed they had. Answers were recorded on Qualtrics survey, and a thematic analysis was conducted on the data.

Results: Main themes were found in the thematic analysis. About 54% of adults believed they were at a higher risk to develop a chronic disease as their age increased. Many pointed out they believed this was a result of their immune system deteriorating with age. When asked how they monitored their health about half of participants included statements about visiting their doctor, the other half included doing exercise and trying to make healthier dietary choices. Participants were asked about major lifestyle changes done to prevent chronic health conditions. About 43% of participants changed diet, 28% included implementing some kind of exercise and 10% acknowledged making no change. A high number of participants included wanting to make these changes because of their family. Most adults admitted to having negative feelings about chronic disease. Knowing someone with a chronic disease, having grandchildren, and wanting to live longer were important elements as to why adults wanted to participate in chronic disease prevention behaviors. Many participants believed bad mental health negatively affected chronic disease outcomes and symptoms.

Conclusion: The aging population has a high risk of developing chronic diseases. Compromised immune systems do not have the ability to fight infections and diseases as well. Declining mobility and motility decrease the amount of physical activity older adults can do. Family support and mental health are connected to outcomes of chronic disease. This information can help many others. The older population needs to be educated on the risk factors and behaviors that can affect the development and treatment of chronic disease. Medical help often includes treating patients instead of educating on prevention. The older population reported the most common way they monitor health is by going to the doctor. Education on prevention of chronic diseases by primary care providers would be a big step in the right direction.

Angelica Ponce-Villeda

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Physical Activity in Aging

Based on our group's findings in each of our research questions, they have come up with the conclusion that a lot of their points of views are fairly similar and of course there were some differences (Raheja, 2021). They found out that lifestyle changes are mostly made for family members not really individuals. Based on our previous discussion, our group has realized that the aging adult prefers outdoor activity as their form of exercise. As they know, physical activity has a lot to do with mobility, they decided to ask people; "Talk to me about what your physical activity looks like in your daily life?"

In this research, they decided to interview several adults from the ages of 50-80 years of age. The question was asked for some via telephone call and for others in person. Once the interviewees responded to this question, they decided to write it down and later transfer the questions and answers on a word document to later transfer the answers to Qualtrics. The website was used so all group members could see what the rest of their group members responses were. They then analyzed all the responses given by the interviewees and the group decided to split the questions; one to two questions per person.

As they dive into the research question, they want first to address the meaning of aging, "Aging is associated with decline in processing speed, memory, motor control, and mental flexibility, which greatly impacts individuals' well-being and health" (Tang, Y., Fan, Y., Qilin, L., et al., 2020). The definition of aging greatly impacts the way they conducted their research and how they later interpreted the research answers they received.

Majority of the responses received were either cardio related or outdoor activities. It is important we know what cardio and outdoor activities are. Cardio is an aerobic exercise that stimulates and strengthens the heart and lungs (Dictionary.com). Outdoor activities are "Physical activity in outdoors or natural setting, which provides opportunities to connect with the community" (Outdoors Queensland). The cardio activities the interviewees said they did light to moderate walk/run. Of all of those being interviewed 58% of them stated they participated in cardio. 21% of interviewees said they participated in was gardening, bird watching, and watching kids play (outdoor activities). Lastly, 15% of those who responded participate in both cardio and outdoor activities, daily.

The aging adult prefers cardio activities such as running or walking. It is just a lot easier than going to the gym and having a full-blown exercise. To conclude, the group, can say that It's easy and more effective for the older generation to choose cardio and better diet as their form of healthier habits/activity.

Jada Quezada

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The Mental Effects on Social Isolation

Many people around the world suffer from mental health problems, though the risks of mental health problems among other adults are rarely discussed. Since mental health among the aging population is often overlooked not as many people try to comprehend what is going on in their minds. While conducting numerous assignments about mental health in the aging population my research question has shifted. Questions were asked to participants such as, “do you think your mental health has impacted your energy and mood levels?” and “where have you been educated on mental health”. With this specific question the answers that were being given stuck out which helped form this research question. The research question that was formed was *what causes social isolation and how does it affect mental health*. Social isolation plays a big role when it comes to mental health for instance it is known that “The experience of perceived social isolation has significant negative consequences related to psychological well-being” (Clair et al., 2021).

During this research we asked open ended questions to get as much information as possible. Questions ranging from what their age was to how they feel on a scale of 1-10 were asked and out of all 10 questions there were many interesting answers that were given to us. In the research the questions were being put through a software called Qualtrics to help organize all the information that was being given. With each question it was divided into groups for people to conduct an analysis of each data which most importantly helped find major themes in this research.

The final themes that were brought to attention was mental health affecting people’s mood and their physical state as well as the education on mental health. When it came to people’s mood and their mental health half of the participants answered that they would stay home and feel unmotivated. It was stated in the group analysis of the questions that, “There are people who rather stay inside and distance themselves” (Quezada). The other final theme was the education of mental health. The education of mental health is an important topic to go over but based off the analysis of this question it was often overlooked or not even taught. For example, it was stated that, “it became clear that almost none of the participants had received formal education or training for mental health” (Riggs). With this finding it brought to attention that this may have been a big cause of mental health since not many people had the opportunity to get educated on a topic so important like mental health.

With these two major themes they went along with each other. It came into conclusion that the education of mental health could have affected people mentally since they did not know how to help themselves mentally which was why they chose to stay home in the first place. Not educating people on mental health affects people deeply to the point where they do not even know how to cope with it which causes them to stay home. In the future education on mental will reduce people with mental health and improve people’s physical and mental health.

Work Cited

Clair, R., Gordon, M. K., Kroon, M., & Reilly, C. (2021). The effects of social isolation on well-being and life satisfaction during pandemic. *Humanities & Social Sciences Communications*, 8(1). <https://doi.org/10.1057/s41599-021-00710-3>

Yasmeen Qusay

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health and the Aging Population

Introduction: As you may be aware, many people around the globe suffer from mental health issues, but we rarely discuss the dangers of mental health problems in older adults. I'm positive you're wondering why this is more common among older individuals. When most people think of mental health, they focus on the younger adult population, but we never stop to think about the old. Mental health among the elderly is frequently neglected because no one attempts to understand what is going on in their heads. They are continually ignored because they are considered "too old" to be depressed or anxious. This research looks at how mental health affects the elderly populace. Some concerns about how mental health affects individuals, as well as some barriers and facilitators to getting help. This enables us to pursue mental health tools and determine whether there is any stigma in the healthcare environment.

Methods: When performing this research, my group and I first discussed what our main research topic would be. Once that was determined, we set up our Qualtrics interview and submitted ten questions. By doing so, each of us was able to present various responses from the people we interviewed, whose ages ranged from 50 to 90 years old. When I was interviewing my people, I used my phone to record what they expressed so that I didn't miss anything essential, and I later copied it down into a word document. Finally, my group and I divided our questions and entered statistics into Excel to identify a common subject among those whom we interviewed.

Results: Even though a significant percentage of respondents were aware of the term "mental health," they only had a rudimentary grasp of it. Many respondents to this question stated that mental health has an impact on how you perceive life and the people around you, or that they know people who have battled with mental health but have not personally experienced it. According to the data analysis, it appears that most of our subjects are on the right track to fully understanding what mental health is, and they are also starting to pay attention to their mental health rather than disregarding it. The vast majority of participants either did not comprehend the concept of mental health or merely stated that it is concerned with your feelings and well-being. It was discovered that 73.3% of the respondents had heard of mental health, while only 26.7% had not.

Conclusion: To summarize, the aging populace comprehends a great deal about mental health, but not enough. The aging community today is unlikely to recognize mental illness or seek mental health assistance. There are many misconceptions about what mental illness is. Many elderly individuals regard mental disease as a sign of frailty and are reluctant to confess to having challenges, particularly if they fear losing their freedom. Too many people accept dementia and melancholy signs as a typical aspect of aging. Many older individuals also lack access to and abundance of services. This demonstrates the importance of beginning to provide more tools to our older population in order to educate them more about this important issue.

Vanessa Ramirez Corona

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Mental Health in the Aging community

Introduction: The research project my group and I created is Mental Health in the aging community. We chose this because we rarely discuss the risks of mental health problems among older adults. Mental health among the aging population is usually overlooked because no one really tries to comprehend what is going on in their minds. They are constantly dismissed because they are regarded as "too old" to be suffering from depression or anxiety. The question that guided our research was how does mental health affect the aging population.

Methods: To conduct our research we used qualitative methods. We used our research questions to conduct interviews and gather real life answers from the aging community. The research questions we asked were what is your age, what does mental health mean to you explain, tell me a little bit more about what you know about mental health, where have you been educated about mental health topics, on a scale of 1 to 10, if 10 was really down, where would you put yourself and why, do you think that your mental health has impacted your ability to do activities throughout the day, do you think your mental health has impacted your energy and mood levels explain, do you think your mental health has an impact on your physical health explain, do you think the aging process has impacted your mental health and what kind of strategies do you do to maintain your mental health explain. Most of the interviews I did were in person at my job and with a couple of family friends. First, I would ask the questions and write the answers in my notes and later transferred them to Qualtrics. Then I analyzed each question to do the thematic analysis.

Results: The final themes we found from the interviews were motivation, mood/energy and mindset. Almost half of the participants described some feeling of sadness. Some of these things included loneliness, isolation, depression, past trauma, anxiety, and waking up sad. Positive mindset was one-third of the group. They mentioned things like being grateful, having family to see, keeping busy, and keeping a positive attitude when things are difficult. We realized that there are two types of people when it comes to their mental health affecting their energy and mood. There are people who would rather stay inside and distance themselves and there are people who would rather take their minds off it by doing activities or being with family that will uplift their mood/energy. Those in their 50s, 42% of them felt that loneliness affects their sadness even more. When it came to those in their 60s, 75% seem to be more outgoing. They are more ambitious and try their best to get through the day. 90% of the people from their 70s feel more negative emotions that fall under depression, stress, loneliness, fatigue, and exhaustion. Then people in their 50s 50% of them have something to keep them going. The other 50% of them use going out as an outlet, someone said "once or twice a year I go on a family vacation." We also found that 50% of them use family as a refuge and feel better around them. For the people in their 80s, more than 50% of them are still looking for motivation to keep them going every day.

Conclusion: In conclusion overall the final themes and results were rather mixed. We mostly had half and half for if the aging community is struggling with mental health.

Ayana Richard

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Depression and Anxiety Final Abstract



Introduction: The group decided that aging within the elderly population had been very interesting. From this, there were several questions asked in order to determine the real cause of depression and anxiety in the elderly. One question that happened to be the most prevalent in the group happened to be, “Do you think your mental health has impacted your energy and mood levels?”. This question was found to have a lot of important responses as well as important and interesting facts. Depression is a very serious problem among the elderly which causes suffering, a lot of disruption in families, and a lot of disability in addition to worsening medical outcomes and increasing mortality rates.

Methods: Methods that had been used within the group had been asking a lot of different questions to break the ice for each elderly individual. These questions took place on a survey, where the group members asked a set of interview questions. The group found five people ages 40-90 to ask a set of 11 questions. The group came together on occasion to discuss the answers to each question they addressed to elderly people during an interview process. Questions started simply with their age which is an easy question, a warm-up question. This ended off with a question along the lines of how they are at maintaining their mental health. The group used a platform for holding questions and surveys called Qualtrics. Information was stored here from surveys.

Results: The group concluded the themes of maintaining mental health as well as opportunities and challenges. There were some participants who believed there was nothing to maintain regarding their mental health. Others believed they were aware of their mental illness and tried to cope by doing things they enjoyed. A lot of responses expressed a desire to leave their homes and do activities that occupied their minds. It made sense to me that the elderly population wouldn't understand their mental health and would not want a better life for themselves. They lack knowledge about their mental health, not necessarily because of their age.

Conclusion: Based on the results the group found it to be interesting how much the elderly are affected by depression. “Fatigue makes it more difficult to weed through the already confusing thoughts and feelings that are part of depression”. This is a reason why the elderly have issues when they are depressed and don't move around. Burry, M. (2020, April 13). *Why Depression Makes You Tired and How to Deal With Fatigue*. Insider. Retrieved April 6, 2023, from <https://www.insider.com/guides/health/mental-health/why-does-depression-make-you-tired>

Madelyn Riggs

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental Health of the Aging Community

Introduction: The research topic studied in this experiment was: How does mental health affect the aging community? Mental health in the aging community has the tendency to be overlooked and disregarded so this research question gave an insight into the in-depth realities of this topic. The article “Anxiety and Depression Management for Elderly Using Internet of Things and Symphonic Melodies” (Siddiqui et al, 2021) explains how certain mental health problems contribute to the aging community.

Methods: The research was conducted by interviewing multiple people in the aging community over the phone. The participants were called via phone and asked the interview questions set. They then answered them accordingly and the responses were recorded. The types of questions asked included asking them about how mental health affects them, what they know about mental health, and how they are feeling. Some questions that were asked were: “What do you know about mental health” and “On a scale of 1-10, where 1 is depressed and 10 is happy, where would you place yourself.”

Results: Answers to the specific questions varied but followed certain patterns. Two themes identified were: depression is common in the aging community and most of the aging community is familiar with mental health topics. More than 50% of participants mentioned some sort of sadness or depression in their day-to-day life. When asked where they would put themselves on a scale related to how happy they were, most participants responded with either content or unhappy/just getting by. The data says it was about 50% for but slightly more for people feeling unhappy. The term distraction was mentioned by multiple of my group members, relating to how the participants dealt with these feelings of depression or loneliness

Conclusion: This research is relevant to modern-day research on the aging population. Results from this research lead to the conclusion that the aging population needs to be taken into careful consideration when it comes to mental health topics. Research that is currently available to the public related to the mental health of the elderly community discusses the need for more education about such topics in that community. From the data above, there is a conclusion that most of the aging community has an idea about what mental health entails.

Gray Robinson

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Nutrition's Effects on the Aging Population

Introduction: Research aimed to understand the substantial effects of healthy eating demonstrated that diet influences physical health, cognitive function, bone health, eye health, and the immune system (Tucker, 2010). The healthcare field has taken the initiative to increase people's awareness of these effects. The influence that diet has on the aging population is even more important to maintain a healthy body and mind throughout life. The purpose of this research project was to understand nutrition's effects on the aging population throughout life.

Methods: Developing research questions that focus on the effects food has on a person's overall health during various stages of life were used to analyze how people view the impact food has had on them. Structured interviews over the phone were completed with people in their 50s, 60s, 70s, 80s, and 90s. The data collected from the 30 people interviewed were then transferred to Qualtrics. After collecting the data, recurring themes based on people's responses were developed. These themes were then shared among group members to form new conclusions on how and why people viewed nutrition as impactful on their health.

Results: People's responses emphasized the influence that their diet has on their mood, energy levels, and cognitive function. Over 36% of adults spoke about the powerful effects eating certain foods can have on their mood. Many people mentioned that going without food can lead to anger or irritation, and how it can be used as a mood booster. Another concern for roughly 25% of adults was their energy levels, and how maintaining a healthy and balanced diet can improve their energy. Finally, mostly older adults spoke about eating certain foods to optimize their cognitive function. This includes improving memory, staying alert, and enhancing focus.

Conclusion: People who eat starchy or sweet foods to cope with feelings of unhappiness may feel emotionally satisfied in the moment. Still, studies show these foods elevate blood sugar and after processing lead to an unpleasant crash (Kaiser Permanente, 2018). Eating foods that stabilize blood sugar levels will help maintain mood levels throughout the day. Sugary foods also have these same effects on energy levels, raising them quickly which leads to a consequential crash (Harvard Health, 2011). These findings might encourage healthcare professionals to recommend vitamins like B6 and B12 which boost energy levels. Eating foods in the morning that are high in antioxidants will help older individuals stay alert and enhance their memory. Foods high in Omega-3 fatty acids even have the ability to reduce the risk of Alzheimer's because they strengthen overall cognitive function (The Briarwood, 2019). Future researchers might take steps to analyze how other nutrients and diets can also help prevent neurodegenerative diseases.

Sam Robinson

Faculty Mentors: Kelsey Gardiner and Jamie Hunt

EUReka! Course: GECRT-SS 111 Health Issues in Aging

Decades Interviews Project

Introduction: As human life expectancy across the world continues to increase, the need for identifying common issues and illnesses regarding ageing is increasing. Many of the problems the elderly population face, however, are modifiable risk factors. This study analyzed the impact that nutrition has on the ageing population throughout the course of life. The purpose of this project aimed at understanding how elderly individuals believe their nutrition habits have on their physical and mental health through anonymous interviews.

Methods: Qualitative research was developed through a 10-question survey on the website Qualtrics. Questions were developed from a collaborative group of 6 students, which ranged from how nutrition impacts mental and physical health, whether the participant had difficulty accessing fresh food, or how their eating habits have changed from when they were younger. These questions were reviewed and approved by an instructor. Qualitative data was collected over the phone, in-person, or in other virtual meetings, before being transferred to Qualtrics by the interviewer. Data was then analyzed and separated into themes across all questions using Microsoft Excel.

Results: Participants demonstrated an awareness and understanding of how nutrition impacted their overall health, along with why their nutritional habits changed as they aged. 61% of participants answered that having good nutritional habits can prevent or manage certain health factors associated with ageing. Some of the factors mentioned were high blood pressure, cardiovascular disease, muscle loss, and even weak bone density. Additionally, over 50% of participants admitted that the way they eat affects their mental health in some form or capacity. These participants admitted that food was an emotional booster, that it kept them energized and focused throughout the day. Some participants also believed that their body image and mental perception of their weight made them more or less likely to stay away from certain foods. These answers explain why 72% of the elderly interviewed admitted to changing their eating habits recently, in forms such as dieting or fasting.

Conclusion: Practicing good nutrition is an important yet obvious statement that has been effectively researched numerous times. Participants in this study demonstrated the link between smart nutrition and improved physical and mental health throughout life. More research is required regarding proper education and implementation of diet recommendations towards the elderly.

Bryana Rodriguez

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Mental and Physical Health Effects on Different Generations

Introduction: Food trends between physical health and mental health are rising in popularity. This study portrays and provides an understanding of the relationship between both physical health and mental health regarding nutrition. How has your food intake affected your mental health? The purpose of this research project was to evaluate how different generations portray their nutritional factors with mind and body connection.

Methods: Data was obtained by utilizing mixed qualitative methods to conduct surveys and individual interviews asked people ages 50+. Primary data was collected by designing surveys of properly developed questions based on the study's intent. All survey measures were uploaded and collected via "Qualtrics" using in-person and direct participant and researcher interaction. Several questions that were developed were, "Has food affected your mental health? Explain." "Does your body image affect the way you eat? If so, explain." "How do you think what you eat on a daily basis impacts your health?" Questions included body image, physical activity, nutritional advantages, and mental health. Data were analyzed thematically.

Results: Participants demonstrated variations of mental health issues affecting body image and their general nutrition. Food-related disadvantages were shown due to not having easy access to food. Participants also demonstrated weight concerns regarding nutrient intake. Around 50% of the data collected demonstrated a diet trend, "Keto." Participants stated that this diet is not new, some used this trend as a resource to lose weight and stated it has affected their health mentally as it does not properly fuel their bodies causing them to look for quicker results and not be satisfied.

Conclusions: Stakeholder feedback accentuates nutrition, the keto diet, mental health, and body image. Research findings for mental and physical health will show improvement in the importance and acceptability of mental health in older generations. Results show how different diet trends affect participants emotionally and physically.

Guadalupe Rodriguez-Gonzalez

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How does nutrition affect someone's overall health throughout life?

Introduction: In our research project, we researched how the foods that we consume changes as we grow older. Our research questions asked were *'What is your age?'*, *'How do you decide what to eat on a daily basis?'*, *'How do you think what you eat on a daily basis impacts your health'*, *'What were your eating habits like when you were younger, and what informed them?'*, *'How have your eating habits/diets changed as you age?'*, *'Have you done anything to improve your diet recently? Explain'*, *'What foods have you currently been eating and what informed your choices?'*, *'Tell me about any memorable diets or nutrition trends you have seen throughout life?'*, *'Describe if you have had any difficulties accessing fresh food at any point in your life?'*, *'How has food affected your mental health? Explain'*, and *'How does your body image affect the way you eat?'*.

Methods: We had conducted our research using 'qualtrics'. We had agreed what type of questions we were going to use and ask our participants. We had participants that were over the age of 50. We asked questions that related to what they eat on a daily basis. How their eating habits have changed from when they were kids to what they eat now. How it affects their mental health and their body image. Even what influences what they eat now. We had conducted our interviews over the phone and in-person. We have transferred your participants' responses into Qualtrics. Our group had volunteered which 1-3 questions we each would analyze the data that we obtained.

Results: In our findings it seems that the participants were focused on their body image either to lose or gain weight to have their ideal body type. They'd say that family influence was a big factor in their eating habits, either if they had healthy or unhealthy eating habits as a child. They might have their eating habits out of convenience. Some were influenced by diets. Though there were some eating habits that were influenced by their mental health, that were either emotional, cognitive, or physical. Though most of them were focused on their health, whether it's to get on a diet that helps them gain or lose weight, cut out certain foods, or eat more fruits and vegetables.

Conclusion: With the results that we have obtained, it seems that the main themes were body image, family influence, and health. It seems to compare to existing research since as people age eating certain foods would improve health and moods. It helps prove that as we age we do change our eating habits for different reasons.

Mason Rogers

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Nutritional Impact on Health and the Ageing Process

Introduction: The connection between food choices and the quality of the ageing process is evidently strong. The quality of foods an individual decides to consume throughout a lifetime will have positive or bad effects on one's health. These effects being related to both physical, emotional and mental matters. The motive behind this research project was to see how different adult age ranges (50-90 years of age) would respond to questions relating to their thoughts of nutritional value and how the participants thought nutrition effected themselves.

Methods: To obtain the data from the participants, experts conducted face-to-face interviewed these adults of wide age ranges where their answers were accurately documented. Within this process questions with topics related to nutritional correlation to mental, emotional and physical health were asked. Alongside that, information about what influenced food choices and what foods participants ate from various times from childhood to present were determined. Complex answers were requested from the participants to gather as much data for proper conclusions.

Results: Throughout this research project questioners gained significant data that found various themes behind the thoughts of their nutritional knowledge and why individuals eat what they eat. Experts found the influences of food decisions and how individuals food choices evolved over time and the reasonings behind that evolution. This exposed the knowledge of how much or little each participant knew about nutritional impact on health, compared to our evidential knowledge and how large that difference is. Results found a proportionally smaller number of answers that regarded the importance of nutrition and health, while many others roamed away from our subject's importance as they chose unhealthy eating tendencies.

Conclusions: Individuals nutrition and food choices/habits are formed strongly during childhood. The importance of parental guidance in education children on proper food choices and nutritional significance will help one grow old to be healthy and age efficiently. One statement even said "my mother impacted my eating habits, I didn't care, I would eat anything and everything that was put in front of me." A portion of the volunteers understand the importance of nutrition and its impact of physical, emotional and mental health as they age, as 25% said they had that in mind when deciding what they eat. On the other spectrum, higher numbers of individuals still eat freely based on simple basis of free will and convenience(roughly 50% of participants). That population debatably had little regard for health consequences from their nutritional choices and how that could affect their ageing process through health relations.

Alice Sabato

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Diets changes and improvements

Introduction: People change diets after recognize their body shape changes. The food people eat impact them in some ways and other either good or bad. However, the older people consume less food they eat. How have your eating habits/diets changed as your age? Have you done anything to improve your diets recently? Explain. Drewnowski, A., & Shultz, J. M. (2001). Impact of aging on eating behaviors, food choices, nutrition, and health status. *The journal of nutrition, health & aging*, 5(2), 75–79.

Methods: The Research conducted nutrition and diets age between 50 to 99+ years old. People were interviewed in person face to face, the responds transferred to the Qualtrics. We ask questions like how the food impact their body? What have done to improve diets? Most participants wanted to keep their body healthier and happy.

Results: They invest in health food and diets intake. The 80% respond with their experience with eating habits/diets, how it has change as they age and what they do to improve their diets recently. They set up eating routine by eating twice a day, and quit eating some food like red meat and drink alcohol. One of my participants said, “I have become more conscious of what I eat, and how often I eat or snack. I do not eat a lot read meat, instead lean chicken, salad, and fruits”.

Conclusion: People eat food they want to have happy and healthy life and most of them are trying so hard to improve their diets. Improvements in diets impact health field and many adults.

Emanuel Salgado Lemus

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

How does the aging population limit doctor visits?

Introduction: The target aimed at was the ageing population and to learn more about their health care. The goal was to see what the aging population does to limit doctor visits. A survey was made to answer the question.

Method: To gather information for the questions. At least 10 to 12 open-ended questions were developed. Utilizing these questions, about 20-30 people were selected and interviewed. These people selected were from 50 years of age and older. These interviews were either in person or through the phone. After being interviewed, their responses were recorded. All data was submitted to Qualtrics for further analyzations.

Result: The data gathered showed that around half of the people we examined eat healthily. 25% of people take their medicine. It was also shown that 33% of people exercise and remain active. There were also a couple outliers. A few people took no action, while a few others were powerless to stop the doctor appointments. That few that must attend are either receiving treatment now or must visit a doctor to have their health evaluated. There were also 1-3 patients who just avoided going to the doctor unless it was absolutely required.

Conclusion: The majority of those surveyed placed importance on engaging in physical activity and eating healthily. There were some of them that did little to promote a healthy way of life. There was one action that practically all of them took and it was frequently mentioned. It was walking and being outside, which makes their daily lives better. It is impossible to overestimate the benefits of walking between daily tasks. The ability to walk and how quickly one walks are indicators of general health and aging. Since walking makes it possible for people to perform many daily tasks, it is crucial for independent living. Healthy seniors who walk frequently are also said to do so as frequently as they did when they were younger and more active.

Alia Schiefer

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Aiding the Aging Population

Introduction: The percentage of Americans over the age of 50 is growing every year, and the research that aims to aid these individuals with living longer and healthier lives is growing. This study aimed to find correlations and themes between certain healthcare decisions and the overall health of the person. The purpose of this study is to obtain new methods of helping members of the aging population actively fight for their health.

Methods: Interviews were conducted of persons ranging in age from 50-100+ and categorically analyzed to find common trends not only between the healthcare decisions themselves, but the ages of the individuals as well. There were 6 researchers involved and each researcher conducted 5 interviews, one interview for each age bracket (ex: 50-59, 60-69, etc.). Eleven questions were asked in each interview, including but not limited to, questions relating to exercise habits, supplement use, and frequency of doctor visitations.

Results: There was a wide range of responses to all the questions, although common themes were found in specific categories. It was determined that a large portion of those interviewed stated that walking was one of their common ways to exercise. This is substantial because there are many studies being published in reference to the many benefits of walking in old age.

Conclusion: The data provided from this study will enable more research to be done into specific sub-topics in relation to the different steps that may help members of the aging population not only extend their life, but also live healthier and feel physically better.

Macyn Schwada

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Disease Prevention in the Aging Population

With continuous innovation in medicine and science, the aging population can live longer than ever before. The research project question is how the aging population is actively preventing disease. The two focus questions were “what recreational activities do you participate in” and “what supplements do you take and what does that look like for you?” These questions were chosen as they have no correlation to each other and can see a difference in the other results. With this research project, there was hoped to find a correlation between the different methods the aging population takes so they can prevent the onset of disease. Most of our participants actively try some methods of preventative care, some because of their own desire and others because their doctors recommended it.

The participants were questioned over the phone on different days. Each was asked the same questions, but some were asked to get more in depth. None of the participants questioned were strangers. Their answers were recorded into Qualtrics as they were answering. After receiving all the participants' answers, the answers were analyzed. Each question's answer was put on different pages of excel and found corresponding themes. The three supplement themes were vitamins, medicine, and whether they were recommended by doctors. For the recreational activities question, the themes were walking, none, and hobbies. These themes were picked for each because they had the most and/or corresponding with other themes.

Starting with the supplements, the first theme was vitamins. Less than half of the participants take vitamins. More than half take medicine though, most are pain medicine. Only five participants had their supplements recommended by doctors. Next, we had the recreational themes, starting with walking. A little over half of the participants consider walking as a recreational activity. A little less than half do no recreational activities and the other lesser half do things considered hobbies such as knitting or watching TV. There was less than one-third that did what are considered recreational activities. Those who did not exercise at all were also some that took no supplements. There is no evidence to prove that supplements benefit physical or mental health.

Overall, the project showed the corresponding health of the participants and their preventive measures. While looking at another research, they found the recreational does correlate with disease prevention. This was proven true as those who were quite active did not have problems with their health. Those who were less active seemed to have more problems. Supplements showed no difference in participants' health and in other studies have shown no evidence to prevent diseases. If this research was to be done again, more participants would be included from a diverse group. The research proves that the recommended preventive steps truly benefit your health.

Katelin Shellito

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Nutrition within the Elderly

Introduction: Nutrition within the aging population is a concern to medical professionals. This interview gets the direct opinions from those that are of older age and live with the nutritional downfall. “What does the aging population know about proper nutrition and what informs their nutrition behaviors.” This is the main focal question within the interview that was conducted. “Nutritional status and individual nutrients have been associated with frailty in older adults.” (Jayanama et al., 2018) The objective of the interview was to understand how elderly people understand and use nutritional education.

Methods: The interview questions were designed to get feedback from older individuals and how nutrition affects their own lives. The questions included those that would require a personalized answer from the interviewee. The interviews were conducted over the phone while the interviewer input the responses into a Qualtrics Survey. The responses were then exported to an Excel sheet where each question was analyzed and were used to find the themes of the responses.

Results: The responses show that the decline of nutritional education within elderly individuals affect their everyday lives. Some common themes within the responses from the interview include having less energy, making unhealthy nutritional decisions, and how hard it is for older people to receive nutritional information. Over 70% of responses given said that the energy output is much lower in older individuals. Over 35% of responses given said that in person communications and physical information is the best way to reach elderly people.

Conclusion: In conclusion, the interview clearly shows that elderly individuals do not receive the nutritional information and education that they should. Society should be concerned about the aging population not fulfilling their needs with the nutrients they need. There should be resources and plans implemented to create a way for our elderly to thrive.

Jewel Slemmons

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Nutrition and the Aging Population

In my Health Issues in Aging Research Group, we chose to study nutrition habits of the aging population. In an article from the National Library of Medicine, Katherine Tucker from Tufts University shared her “Modified Food Guide Pyramid For Older Adults,” explaining that the aging population (or the majority) tend to have one of five different eating patterns: “white bread,” “healthy,” “meat,” “alcohol,” or “sweets.” Her modified pyramid breaks down the different nutritional recommendations for older adults, including water being placed at the bottom since many older adults do not consume enough water, and a flag at the top of the pyramid, indicating necessary vitamins (National Library of Medicine, 2010). Our overarching theme and question for this topic was: What does the aging population know about proper nutrition and what informs their nutrition behaviors? Each person in our group interviewed 5 people, for a total of 20 respondents.

To gather data and conduct a survey based on our research question, we created a survey of 10 questions for adults aged 50 and older. We based these questions off of the article from the National Library of Medicine and other scholarly articles to see if respondents have/have access to the knowledge in the articles. The questions centered around the respondents’ current diets and how that affects their daily life, how they receive/wish they did receive information regarding nutrition, what a healthy diet looks like to them, and more. To gather my part of the data, I conducted some of the surveys over the phone and some in person. Lastly, to export and analyze the data, we each took all of the responses from 2 questions from the survey to find key words and phrases to compare and contrast the answers in a thematic analysis. We were able to compare and contrast each of our analyses to find similarities in the responses.

The final themes I gathered through creating my Thematic Analysis and critical assignment #4 included more than 50% of older adults reporting eating less, having less energy, and the acknowledgment that many of them should change the way they eat. Below, I have included a screenshot of the themes I found during my Thematic Analysis. The “code” helped me to pull small phrases from each response in order to compare them and create the three themes for each question. The x’s represent each time a respondent’s response aligned with the themes, in order to track how many responses followed these similar themes.

The results of this survey show that the majority of older adults have some knowledge about what nutrition does and should look like in their older age. However, many of them do not feel encouraged enough, within themselves or from external sources, to change their current diets. There is a lot of research about how older adults typically eat, as well as what they should eat. However, this research now needs to be applied in doctor’s offices, hospitals, on tv, and more, in order to better encourage older adults to change their diets and show them the benefits of doing so. With more knowledge on ways to fuel their bodies, older adults will feel more energized, happy, and can even further their lifespan.

Jocelyn Soto

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Health Issues in the aging population with proper nutrition and Behaviors

Introduction: As people age, they start to take care of their health, and by doing this they can be informed on proper nutrition and behaviors. When informing people, we can help prevent chronic diseases related to their daily diet and behavior choices. Malnutrition in older adults has been recognized as a challenging health concern associated with not only increased mortality and morbidity, but also with physical decline (Norman,K etc.) Which leads to the question: What does the aging population know about proper nutrition and what informs their nutrition behaviors? The series of questions related to this research are How do you receive information and education on healthy nutrition and lifestyle habits that you should Practice? What does a healthy diet look like to you?

Method: Conducting research on nutrition and behaviors participants were asked a series of questions. When developing our instrument, the use of questions was thought of where the aging population received information and how or if they apply it in their daily lives. When conducting these interviews, we received responses to the open-ended questions collecting their data on lifestyle habits, diet choices, and information on nutrition. Interviewing ages 50,60,70,80, and 90s age data was collected. When filling these surveys with the information they were transferred to Qualtrics where data was collected and reviewed. Reviewing these questions there was a broad thematic analysis of the topics discussed like Healthy foods, healthcare information, and social media influencing.

Results: The finalized themes of daily diet affecting health, the environmental setting influencing nutrition, and people who influence nutrition as well as lifestyle habits. Each of the participants fit within these themes and the age range also affected these responses. When participants choose healthier choices about 80% choose healthier foods like less greasy and less processed foods. When influencing nutrition participants in the older age range receive nutrition information from family and their healthcare provider. The response to a balanced diet was 30% of eating the specific foods for a balanced meal. The younger age range of 50-60 takes social media to inform and influence decisions on healthy diet choices. All the participants are motivated to eat healthier and improve their health.

Conclusion: The collection of the data and the participant's responses were open to wanting more information on these topics of nutrition and lifestyle habits the participants want to improve their healthy eating habits and choices in their daily lives to improve their health. This research is important to add to the existing research available to improve nutritional information. It impacts the field of healthcare and can lead to the net steps needed to be taken to improve education for all ages. This can improve and create new existing programs on how to inform others.

Norman, K (2021) Malnutrition in Older Adults-Recent Advances and Remaining Challenges

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8399049/>

Elijah Strout

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Nutritional Health of Older Adults throughout their lives and how it affects their susceptibility to Mental Health Illnesses and Diseases

Introduction: With an increase in mental health issues seen in the past few decades, a question arose if there was a correlation with this increase in mental illness and disease and an decrease in general nutritional knowledge, as well as an increase in people being overweight or developing obesity in the United States. This study aimed to find a connection between the two factors by looking at older adults from the United States and asking them questions about both their mental and nutritional health throughout their lives.

Methods: A group of 24 older adults, with an age range of 53 to 97, were individually interviewed by the research team. This group of participants were questioned on a wide subject of related information, such as information relating to nutritional health throughout their life, history of mental illness or disease, views on mental illness, views on those with health conditions, and questions based on the main research question on a correlation between mental health and nutritional health. Interviews were then complied by the research team into a spreadsheet and broken down by individual question to draw results.

Results: The results shows that most of the participants lived relatively health lives, taking good care of their physical health as well as their nutritional health. Most participants also expressed no mental health illnesses or diseases that they developed during any point in their life. However, there were a few participants who *did* describe their nutritional health throughout their life as sub-optimal, and others describing their struggle with mental illness. One question also stood out to the researchers asking about general nutrition during times of personal crisis or trauma in a person's life, finding a sizable portion of the participants describing eating as a way to reduce stress.

Conclusion: With the interviews done and the responses broken down, the final conclusion is that while there *was* some semblance of a correlation between decreased nutritional health and increased stress/mental illness, there wasn't enough data to draw a *conclusive* correlation between the two factors.

Drew Taylor

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Does Nutrition Have an Impact On Mental Health

Introduction: Mental health is known to have an impact on how people eat, but does nutrition impact have a reverse effect on mental health? Through investigations on daily nutrition, eating habits, mental conditions such as depression, and the mental health of many, multiple conclusions have been made. This study was brought upon people between the age range of 50-99.

Methods: To collect the data, a survey was created with 10 questions relating to both nutrition and mental health. Those who were surveyed were between the ages of 50-99, and were connected through phone call, facetime, and Zoom. Their answers were then collected and analyzed to find common themes and connections.

Results: Age is a determining factor in health and nutrition. As people get older, their health naturally declines. This is a fact proved by science, but it is also backed by the opinions of those who were surveyed who could all note that their physical health declined as they aged. Nutritional practice would increase with age as people would be trying to prevent a health decline, disease, or condition. Most commonly, once people would reach their 30s, they would begin to pay more attention to their physical and nutritional health.

Conclusion: Nutrition does affect mental health. If someone is nutritionally and physically healthy, then they are more likely to not develop depression or other mental diseases at an older age. However, the development of a physical or mental condition can worsen nutritional health and by correlation make it harder to deal with depression. Looking to the future, pushing balanced meals throughout someone's life might make it easier to practice better nutrition, and in turn, would better their mental health.

Liberty Tegethoff

Faculty Mentor: Kelsey Gardiner

EUReka! Course: GECRT-SS 111 Health Issues in Aging

How mental health affects the availability and applicability of nutritional strategies in the aging population

The purpose of our research survey was to understand how mental health may affect the dietary habits of those among the aging. Our research question was “Does mental health affect the applicability and availability of healthy nutritional strategies in the aging population”. Within the study we interviewed participants in the age ranges of 50-100 years old. Some of the questions the participants were asked include, “have you suffered from a mental illness”, “do you think that long-term eating patterns can affect you later in life”, and “how would you describe your level of health throughout your life”. There were many different answers given among many different individual perspectives. Results throughout survey studies always vary, but within this study there were many different similar themes found.

Create a study survey that is roughly 30 minutes long to take and asks a series of quantitative and qualitative questions for observation. Background questions such as age, having illnesses/diseases, and childhood health information. Questions with personalized answers due to each individual experience such as “during times you were struggling mentally how were your nutrition/eating habits impacted?” and “do you use any aspects of healthy eating/nutrition to cope with your mental health?”. Then we observe the data collected and given answers and find common correlations between answers.

Some themes that were seen throughout the survey results included participants describing how their food intake got better over the years (healthier eating habits) when they started to pay for their own food and feed others. Another theme throughout the study was the correlation between having mental health diseases/symptoms and having unhealthy eating habits during those times. Many participants reported that when having mental health issues, they would either stress eat and consume a lot of food or eat little to nothing at all. Within the discussion board, we found that many people did see a change in quality of meal due to one’s environment during day to day activities.

Our results were similar to research studies that have also been on our topic however, different interviewees give different perspectives, concluding in different results. Our finding might impact the health field by allowing health care professionals to further understand how healthy food choices are affected by a number of factors, but knowing mental health and financial stability are the key factors seen it can help to make proper plans for each individual. If mental health affects eating habits, then helping to positively progress those symptoms and individual cases can help to develop a plan with the purpose of healthy eating. The next step to be taken with this information could include new healthcare plans for individuals as well as work towards getting better statistics on healthy living overall. A simple step to be taken could be to have patients keep a food journal of what they eat, when, and how much, as well as including their emotions and mental wellbeing at the time. This can help to create correlations between healthy and unhealthy eating habits, while also implementing new strategies to help patients overall.

Leslie Tellez

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Decades Interview

Introduction: In recent years, the conversation about mental health has become widely accepted. There's recent attention towards mental health due to the changes one's body goes through with a variety of mental states. Nutrition is a factor in someone's life that is affected by mental health. The mental health of any human is important, although for this research topic there will be discussing if mental health affects the availability and applicability of nutritional strategies in the aging population.

Methods: After reviewing, there were 10 final questions that were formatted into an interview. The qualifying interviewees were adults in their 50s-90s+. These questions included topics such as perceptions of mental health, how nutrition has affected mental health/ how mental health has affected nutrition and coping with mental health. These questions were documented as a group through personal and virtual conversations. Following up, the responses to each interviewee were then transferred into Qualtrics, an interview/questionnaire software provided by the university of Missouri-Kansas City. Lastly, the responses were divided between members of the group, then thematic analysis was used to analyze the responses. A general theme was then identified within the responses and then gathered into common themes.

Results: Through these reports, there are patterns and common trends in themes. thematic analysis was used to identify, analyze, and interpret the patterns and common trends reported from the responses given by the interviewees. Some very common themes were "aging", and "nutrition". Many interviewees mentioned that they cared for their nutrition more once they started aging. One commented "nutritional improvements with age", this interprets as they noticed "healthy" improvements as they aged. There were many other trends regarding mental health with both positive and negative connotations, though it didn't seem to have created any major themes even though it was a frequent result. Another theme was "Younger generations=higher rates of mental illness" and "Older adults=lower rates of mental illness". Above the average results, there were comments that highlighted the controversial statement regarding mental health among generations. These responses have created an "ignorant" theme within the pool of general themes. Lastly, 60% of older adults responded that junk food made them happier instead of feeling bad for indulging.

Conclusion: Can the community really feel bad for indulging in "junk food"? From this study, many older adults enjoy the spark that the foods labeled as a "no-no" give them. Unfortunately, there can not be any deny that the older population does suffer from mental health problems. There is still current stigma that the "younger generations created mental illness". It is evident that a large population of aging adults don't like to compare their struggles as a "mental illness", but there is still the ability to quietly diagnose these individuals. This study can be compared to existing research, since the investigation of health issues in the aging population continues. What can impact for future research, is the ability to respond to mental illnesses quicker with an "ignorant" aging community. Younger community members don't notice the effects of nutrition as they hit the body, but until they become older and aging adults, they can start to feel the effects.

Aida Tesfey

Faculty Mentors: Kelsey Gardiner and Jamie Hunt
EUREKA! Course: GECRT-SS 111 Health Issues in Aging

Does mental health affect the availability and applicability of nutritional strategies in the aging population?

Introduction: Does mental health affect the availability and applicability of nutritional strategies in the aging population? Following are a few scholarly sources that explored this concept:

Zhao, H., & Andreyeva, T. (2022). Diet Quality and Health in Older Americans. *Nutrients*, 14(6), 1198. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/nu14061198>. Jung, Seung Eun, et al. "Nutritional Status of Rural Older Adults Is Linked to Physical and Emotional Health." *Journal of the Academy of Nutrition and Dietetics*, vol. 117, no. 6, 2017, pp. 851–858., <https://doi.org/10.1016/j.jand.2017.01.013>.

Methods: The research question was explored by first learning more about the correlation between nutrition and aging through scholarly sources. Then as a group, we thought about topics that helped to answer our research question in a variety of ways. Next, we conducted our interviews in person, by phone call, or through Zoom. The interviews were recorded to ensure the responses were properly taken. After the interviews, we typed the responses on Qualtrics and submitted them. After this, we uploaded the data from Qualtrics into Excel and organized the information based on each question.

Results: A key finding uncovered after the course of the interview is that health issues are relatively subjective to many but generally health begins to worsen with age or after being diagnosed with a disease. Another theme is that people are more lenient with nutrition when they are younger, but pay more attention to age. For the research question, "Has nutrition played a role in what foods you chose to eat and buy?" almost all participants said they made nutritional improvements with age. A general theme was that they were lenient as they were younger, but with age, they began paying more attention to eating habits. Another theme was that their nutrition is based on their environment. About one-third of the participants said when they were living with their parents they are healthier. A few participants also said that when they were struggling financially or feeling sick when they were younger, they were lenient about their nutrition.

Conclusion: The results we discovered are similar to much existing research. We uncovered similar conclusions to correlations existing between nutrition and the elderly. Our findings help further enforce the relationship between aging, nutrition, and one's environment and can help spread awareness for improved health. The next step that a researcher can take is using this information to advocate for improvements in geriatric health by understanding aspects and relationships of how our participants viewed their health.

Ruth Thao

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Does Chronic Disease Relate to Health Behavior as we are Aging?

Introduction: As we are aging, we are more prone to getting sick and lots of us can get Chronic Diseases such as Diabetes, high blood pressure, etc. Aging is something we can't stop; as we age, our behavior can also change. Our behavior can either benefit us or it can be a disadvantage. One of my research questions was "Do you currently or have you ever had any health issues that created barriers to your daily life"? most of the response was yes and it was mostly about food and eating. So, an example of bad behavior can be emotional eating. "Emotional eating is one way some individuals respond to and cope with unpleasant physiological and emotional responses resulting from external stimuli (Chao et al., 2016)". This can cause us to be relieved of our stress in the meantime, but we can also develop depression and insecurity.

Methods: In the research, we used a qualitative method to interview ages between 50,60,70,80, and 90. Within the team, we came up with 10 questions to ask that relate to how chronic diseases can relate to health behavior and aging. For example, some questions are about local effects on where you live, any barriers to health issues, how nutrition is important in health behavior, how to prevent negative health behavior, and if they think social support is important and helpful. Then after we have finished asking the question, we then put it into "Qualtrics" a programming survey. After that, we turned it into a thematic analysis data on "Microsoft Excel". This is where we put all our research data and answers.

Results: According to the thematic analysis, two main themes have been identified the type of food and physical activity that occur mostly in some of the participant's life. These questions are asked to see how they make choices and to see how they take care of themselves, it can either be a good habit or bad. Because all this comes from the choice and behavior of that person.

Conclusion: Overall based on the theme and results it's already similar and it is already known in the world. In the research, we talked about food and physical activity, how those things eventually relate to health behavior, and how we decide to make our choices. Another research such as "What's eating you? Risk factors for poor health behaviors among family caregivers" (Koumoutziz & Cichy, 2021) is somehow related to the research topic. This impact the field by giving it more attention so it can be more known and popular so lots of people can start to help and gain benefits from it.

Monique Tolleston

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EUREKA! Course: GECRT-SS 111 Health Issues in Aging

Final Abstract

Introduction: The questions I had are #13 Do you get more annual checkups than when you were in your 20s? 30s? 40s? Explain and #11 Do you know how many medical diagnoses you currently have? Explain. Both of my questions went well together. Researching both questions include increased doctor visits as people age and health diagnosis.

Methods: I used Qualtrics to receive results to questions 11 and 13. When I conducted my interview questions, I did a few over the phone and a couple in person. I used different themes to filter through the answers people gave during interviews. Individuals in my group did the same in person or over the phone.

Results: There were a total of 31 individuals that answered both questions. 65% of people answered yes to question # 13, to receiving more annual checkup for 50 years old and up. 16% answered they received the same number of checkups under the age of 50 years old. 19% answered they didn't receive more annual checkups over the age of 50 years old. Overall, the majority as they age needed more healthcare due to increasing health problems. Question # 11 65% of people answered yes to receiving at least one medical diagnosis. 32% surprisingly had no known medical diagnosis. Medical diagnosis can be mental health diagnosis and some people may not have considered that while answering the question. The reason why, I stated no known medical diagnosis because some people might be undiagnosed due to not being symptomatic. 3% didn't answer rather they had any medical diagnosis. 22% of people that answered yes was diagnosed with high blood pressure.

Conclusion: According to (Hope,2022), as people get older, health issues will arise. Heart disease increase over the age of 65 (Hope, 2022). Hope also gave a list of diagnosis people may have as they age. Some of the lists of diagnosis were heart changes, incontinence, weaker bones, arthritis, and diabetes (Hope, 2022). One of my themes for Question #11 was for people that answered yes to having a diagnosis, what was the diagnosis. I was able to determine 22% of the people that answered yes was diagnosed with heart disease. For question # 13, I used the reason why visits where increase, decreased, the same as a theme. The majority amount of people had different reasons why the amount of doctor visits increased as they got older.

Jenny Tran

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

How Aging Impacts Health Behaviors Related to Chronic Diseases



Introduction: Personal health behaviors play a critical role in determining the risks for chronic diseases. In relation to the aging population, aging possesses a large impact on the day-to-day life of many individuals, which can further influence personal health behaviors in a positive and/or negative manner. Additionally, it is known that a self-actualization-orientated lifestyle is critical in improving and/or preventing poor health behaviors, and overall decreasing the risks for chronic diseases (Chia, et al., 2023). Therefore, the goal of this study is to understand which specific health behaviors are commonly impacted by aging and how and why they relate to the risks for chronic diseases.

Methods: A qualitative method was used in this study which resulted in interviews being conducted on representatives of the aging population (age groups ranging from 50 to 90). Ten comprehensive questions were constructed that correlated to the overarching goal of the study: determining how aging impacts health behaviors related to chronic diseases. Consequentially, participants were asked to relate negative health behaviors with the factors that influence negative health behaviors. The interviews were conducted in person, and the data was entered into “Qualtrics”, a software system. After all interviews were conducted, the data was exported to “Microsoft Excel” for thematic analysis.

Results: Based on the thematic analysis conducted on the interview responses, two main themes were identified within the participants’ responses: diet and physical activity. More than 90% of the aging population interviewed identified that diet and physical activity are the two main health behaviors that are critical in preventing and decreasing the risks for chronic diseases. Most participants identified that exercising, obtaining the proper amount of nutrition, and overall changing poor habits decreases the risks for chronic diseases and improves the quality of life for those diagnosed. To elaborate, physical activity or exercising, such as walking or jogging, improves heart, brain, bone, and muscle function, and maintaining diet by controlling what is consumed correlates to effective management of preventing malnutrition. Furthermore, the analysis concluded that more than 90% of participants stated that various factors caused by aging influences the development of poor health behaviors in diet and physical activity, such as lack of motivation, support, range of motion (increasing sedentary behaviors), and access to treatment.

Conclusion: Current research identifies that a self-orientated lifestyle is critical in improving personal health behaviors (Anderson & Durstine, 2019). Therefore, this establishes that personal decision significantly impacts certain health behavior. In specificity to the aging population, with relations to the analysis of the study, diet and physical activity are the specific health behaviors that are commonly impacted by aging to which increases the risks for chronic diseases. Diet and physical activity play a large role in preventative care for chronic diseases which ties into personal decision making. As a result, the findings from this study can impact the health care field by promoting a positive environment where physical activity and developing healthier diets can be easily incorporated into the daily lives of the aging population.

Gabriella Urrea

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

Health Behaviors Influencing Chronic Diseases

Introduction: This research project was based on chronic diseases among the aging population. The main goal was to research and gather data on how health behaviors play a role in obtaining a chronic disease later in life. The main research question that was used as a guide throughout this research was, "How do health behaviors impact chronic diseases among the aging population?" This topic was chosen because it is important to understand how health behaviors play a role in lives and how they can cause damage later on. Being aware of health-related behavioral decisions is an important step to maintaining a healthy lifestyle. The aging population struggles every day, and maintaining a healthy lifestyle is critically important in their lives.

Methods: During this research project, there was a lot of group work. The focus was to gather information about the aging population and figure out the lifestyles within this group to see how it impacts their everyday lives. With that, many people within the age groups of 50-100 years of age were asked to participate in a small interview about their thoughts on health-related behaviors and how they play a role in chronic diseases. Many of the participants were asked what their thoughts were on nutritional diets related to chronic diseases. These participants were also asked what their thoughts were on how local areas play a role in maintaining a healthy lifestyle. All the interactions between the interviewers and participants were conducted over the phone since many of the participants had busy schedules. All data and information were exported to and analyzed through the website Qualtrics.

Results: After conducting interviews, many participants came to various conclusions about how health behaviors impact chronic diseases. Within the interviews, some adults concluded that bad nutritional decisions can definitely cause harm; for example, those who consume alcohol and smoke are more bound to obtain a chronic disease later in their lives. A few of the themes found within the research include: the majority of the aging population agrees that keeping a healthy diet, maintaining physical activity, and adopting healthy lifestyle habits are all key elements to preventing or managing a chronic disease better.

Conclusion: From this data, it can be concluded that the aging population agrees that taking care of the body is a key element to preventing chronic disease or being able to maintain it better when one is diagnosed. After doing research on this data, it was found that other researchers also came to similar conclusions. In an article, researchers studied the effects of a healthy diet among those with chronic diseases or those bound to have one later. These researchers came to the conclusion that those who carried a vegan or vegetarian diet decreased the risk of chronic kidney disease in those with diabetes (Hou, et al.,). Although some of these participants were already diagnosed with a disease, the change in diet helped lower the risk of acquiring another disease.

Another study found that physical activity can also lower the risk of acquiring a chronic disease. The article states that in the results, it was found that more time spent outdoors may be associated with lowering the risk of chronic diseases (Beyer, et al.,). From this data, everyone can learn to promote healthier lifestyles. This can positively impact the healthcare field because if more people take care of themselves, there will be much fewer ill people to take care of. Another way to promote healthy lifestyles is by teaching children healthy habits from a young age. Creating a habit at a young age could guarantee that they will carry it throughout their lives.

Ma’Kese Wesley

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

The Impact of Mental Health on Older Adults

Introduction: The present study qualitatively investigated the impact of mental health on the aging population. In this study, the research question that was conducted was “What is the impact of mental health on older adults?”. More than 20% of elders suffer from mental disorders, and the two most common mental illnesses among this age group are dementia and depression (WHO, 2017). Many elders don’t recognize that they are dealing with mental illness which is why providing awareness to people in that age group would be one step toward improving stigmas.

Methods: The method that was used in this study was a qualitative survey for the aging population 50 and older. In the qualitative survey, 10 questions were presented to the interviewees. There were specific questions that were developed to get information on how mental health impact the aging population. For example, the survey asked each individual if they can talk about their general mental health and whether have they been diagnosed with a mental illness. These questions were asked over the phone and in person, then answers were transferred to Qualtrics. Once all the questions were answered by each individual then they were exported into an Excel sheet where the data can be analyzed thematically.

Results: While analyzing the data from the interview questions the final themes of this research was whether or not their mental health has changed and if they are willing to get resources or not. Question 8 of the survey it asked the interviewees “In what ways has your mental health changed, and are there any specific reasons why?”. About 60% of the aging group’s mental health had changed and 40% changed due to them never experiencing mental health. Question 10 of the survey asked the intervenes “Are you willing to get the resources and help if you're dealing with a mental health issue? Explain”. As a result, nearly all interviewees are willing to receive resources for mental health including those ones that never experience mental health.

Conclusion: Receiving resources and understanding the importance of getting help for mental health seems to be a significant issue as being aware of dealing with a mental illness in the aging population. It is important to reach out to the aging population to make sure they get the help they need. Ways that we can prevent this stigma by making sure all healthcare facility provides mental health support including educating the aging population on mental health.

Luckee Vean

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Aging Population Health Behaviors and Chronic Disease

Introduction: The research project topic goes over how aging impacts health behaviors related to chronic diseases. According to the CDC, 73.3% of the aging population will have one chronic disease (CDC, 2023). This data relates to those who are over the age of 65 without subject cognitive decline. Many of these chronic diseases appear in the form of diabetes, arthritis, or heart diseases. As people grow older has aging has very big impact on our lives, especially when it comes to our health. The aging population is more prone to have sedentary behaviors with tiredness becoming common. Sedentary behavior doesn't necessarily mean not doing anything at all, but more so doing things while seated, laying down or reclined while exerting very little energy (Wullems et al. 547). The research done aims to evaluate what health behaviors the aging population believes to prevent and manage chronic diseases.

Methods: An online survey was conducted with qualitative research questions relating to health behaviors and chronic diseases. The data collected from the population is based on participants selected by the researchers. Participants were also chosen with the condition that they were aged 50 years and older. Interviews had the option to be done in-person and by phone call, after which the information would then be transferred to Qualtrics. The data would be exported with Microsoft excel; a thematic analysis would be conducted to track answers that shared a similar theme observed by the researchers.

Results: Physical exercise, diet, and self-discipline are key themes being health behaviors that participants believe play a role in managing chronic diseases. The health benefits from a proper diet and exercise, such as bone health and improved immune system lessens strain from chronic diseases in day-to-day life for those who have one. There are 24 participants in total that responded to the survey provided. With the question of whether behaviors affect chronic diseases, 8 out of 24 answered that one's diet is important in acquiring a chronic disease. This would make for 1/3 of the participants answering diet playing a role in chronic disease prevention. Participants answered that bad behaviors relating to personal actions and mental health would increase risk of chronic disease. The number of participants that answered this was 8 out of 24 or a third of the population pool.

Conclusion: The results do not differ much in what is already seen in other scholarly articles. The aspect of self-discipline to achieve healthy behaviors like good diet and physical activity is important in many articles (Ntoumanis, et al, 2021). Health behaviors are crucial to one's wellbeing and this is most represented by their diet and amount of physical activity. Nutrition intake is vital with needing to keep up with the necessary vitamins to improve the body's ability to manage chronic diseases. Exercise should be considered with the goal of moderate physical activity if the local area allows it. The individual is to take responsibility for their health behaviors to prevent chronic diseases or managing them. A step that could be taken is for researchers to inquire what the best fitness regimen would be effective for most people with chronic diseases, although it can depend on individual conditions.

Jonin Villacampa

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Mental Health and Well-being Among Older Adults: Exploring Challenges and Opportunities

The aging population is rapidly growing, with the number of people over 60 projected to double from 2015 to 2050 (WHO, 2017). This research project aims to understand the impact of mental health on the quality of life and well-being of older adults (50+). Guided by the question, "What is the impact of mental health on the quality of life and overall well-being of older adults?" (CDC, 2021), the study incorporates personal experiences with seniors and scholarly sources (de Mendonça Lima & Ivbijaro, 2013; Newman & Zainal; Byers et al.) to provide a comprehensive understanding of how mental health affects the aging process, informing targeted interventions for this population.

This qualitative research used a Qualtrics survey with open-ended questions to explore mental health, relationships, coping strategies, and factors influencing mental health in older adults living in senior living homes. Interviews were conducted in-person and over the phone, with data analyzed in Excel. Themes from Q6 (stigma's impact on coping and seeking care for mental health) included mental health/seeking help, personal beliefs, and education of mental health. Themes from Q11 (social and economic factors' influence on mental health) were access to mental health resources, physical health, and mental health.

The study identified several themes concerning mental health and relationships. For Q7 (mental health's impact on relationships), themes were "no impact on relationships" and "shutting people out." For Q9 (biggest challenge with mental health), themes were "staying positive" and "experiencing negative emotions." Social factors and physical health significantly impact older adults' mental health. Loneliness, isolation, and lack of social support were identified as critical factors, while access to healthcare and mental health resources emerged as significant barriers, particularly for low-income participants. Stigma, upbringing, education, beliefs, and coping mechanisms influenced attitudes towards seeking help for mental health issues.

The findings align with existing research, emphasizing the importance of social connections, access to mental health resources, and engagement in meaningful activities for older adults' mental health and well-being. Social isolation and loneliness are significant public health concerns (Newman & Zainal), while underutilization of mental health services (Byers et al.) highlights potential barriers like stigma, lack of knowledge, and limited access to resources. This study contributes to the field by providing insight into older adults' experiences, challenges, and coping strategies related to mental health. Future research should focus on interventions that address identified barriers and promote better understanding, support, and access to mental health resources for older adults, as well as exploring the role of community-based programs and initiatives fostering social connections and engagement in meaningful activities.

Leslie Villasana

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

The Impact of Mental Health on the aging population

Introduction: More than 20% of elders suffer from mental disorders (WHO, 2017). Of the 49 million elders living in the United States, approximately 4.8% of elders suffer from serious mental illnesses (SAMSA, 2022). This study aims to answer, what is the impact of mental health on the quality of life and overall well-being of older adults.

Methods: A survey consisting of 10 open ended questions was created. The type of questions that were asked were related to mental health. For example, one question was, how does your mental health impact your ability to function in your daily life? Another question asked, how does your mental health impact your ability to maintain or create new relationships? Zoom video call interviews were conducted, and older adults in their 50's through 90's were asked the 10 survey questions. Once the interviews were over, the interviewer went over their notes and transferred the responses into Qualtrics. Data was analyzed through a thematic analysis to find common points of views.

Results: One of the final themes was negative emotions. According to the interviewee's, an estimated 82% reported experiencing negative emotions. 12% of the interviewees reported experiencing a loss of appetite when their mental health is bad. 17% of the interviewees reported they would isolate themselves when their mental health is doing bad. The next theme found was a negative upbringing view of mental health. An estimated 53% of interviewee's reported struggling with their mental health at least once before in their life. But many did not seek professional help due to negative personal beliefs on mental health. Over 67% of the participants stated the way they were raised and taught has influenced their attitudes towards mental health. The last theme is coping strategies. Interviewees reported coping through different ways such as leaning on their faith, surrounding themselves with loved ones, exercising, or taking medication and attending therapy. 41% of interviewee's leaned on their faith, 35% surrounded themselves with loved ones. 41% of them reported that they exercised. 24% of interviewee's reported that their diet plays a role in how they cope. 12% reported taking medication and going to therapy.

Conclusion: Based off the results, declining mental health can hinder the quality of life for the aging population because if they experience negative emotions for a prolonged period of time, it can lead them to isolate, starve themselves, and lose productivity. The stigma attached to mental health can also prevent elders from seeking professional help. One study found that 68% of the participants viewed depression as a sign of personal weakness. (Park et al., 2016). These findings can impact the health field because it can lead to the implementation of proper educational programs about mental health aimed towards elders. According to responses, 41% of interviewee's leaned on their faith to maintain their well-being later in life. Research from another study found that the presence of religion or spirituality were associated with lower levels of depression (Lucchetti et al., 2021). Both findings demonstrate that faith can play an important role in maintaining mental health. These findings can impact the health field because it can lead to the creation of more faith based mental health programs.

Kennedi Williams

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EUReka! Course: GECRT-SS 111 Health Issues in Aging

The Importance Of Physical Activity

Introduction: Physical activity has been important but is not always focused on as a person begins to age. Exercise has been talked about our whole lives, such as throughout school, in gym class and even in health classes. This topic is something that should be brought to everyone's attention and should be continuously talked and discussed with individuals. Based on the research and the statistics it's important for the aging population to exercise and participate in physical activities throughout the duration of life. In a reading it states “Regular physical activity is one of the most important things you can do for your health” (CDC). It's recommended that someone should participate in at least 150 minutes per week of physical activity or exercise. Throughout this paper the overall question remains but is to be answered “is physical activity important for the aging population.”

Methods: In the article it talks about how long exercises would be done and for how many days. This is a great article that discusses the importance of why exercise should be done and as well as the benefits. Especially for the aging population, it's important for them to stay active for their own benefits, meaning, mentally and physically. Remaining active helps not only for someone to live a healthy life but it also helps with living longer and more happy. Throughout the surveys that were completed from the different participants there were many different ideas and thoughts given. Although everyone answered the questions differently and everyone continues to live differently, every last one of the participants said “yes, exercise and or physical activity is important.” There were fifty different participants throughout the survey process. The interviews were all conducted and recorded through a website called Qualtrics and were collaborated altogether. The type of questions asked all were based on why exercise was important for the age group. What types of exercises were to be done and what moods they felt after being active compared to when they weren't active.

Results: The final themes for this research project are considered to be Confidence, Energy levels, and stress relief. Stress relief is considered the top theme because of the mood that being active puts you in and also some people tend to use being active as the relief from their outside world which includes stress. 100% of the survey participants stated that being active has either improved their lifestyle or reduced their stress throughout the duration of time. Energy levels were considered important because in order to be active you must have a positive mindset and a great level of energy in order to succeed. Lastly, confidence. Being active and completing any physical activity for the aging population gives them confidence and ensures better self esteem. In other words, the survey participants believe that being active helps with confidence, energy levels, and has become a stress relief for many people.

Conclusion: Based on the results all the survey answers collaborate and connect together. Meaning, as the final results all the participants believe that physical activity is important for the aging group. This all relates back to the three themes that are mentioned throughout the paper. Physical activity is crucial to the world as well as to the focused population in the aging group. In conclusion, it's believed that being active and remaining in physical activity is very important, not just for the aging population but for everyone. The adults involved in the research explained the changes that have gone on throughout their life when they began being active. In conclusion, the results of the aging population concludes that physical activity is important.

Naomi Young

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The Relationship Between Exercise and Mental Health in the Elderly

Introduction: Mental health is something that many people in the aging population struggle with. Several factors such as isolation, loss of independence, loss of a spouse, chronic health conditions can all contribute to this decline in mental health. Studies show that exercise is a cheap and easy tool to combat certain mental health disorders. The main research question that was explored is: Does regular exercise affect the mental health of aging individuals?

How does mental health affect your daily physical activity? Do you think physical activity has an impact on your attitude? Do you believe exercise can benefit people of older generations? Do you think having a consistent activity routine has an impact on your mental health? What mental health benefits do you experience from routine exercise? Do you believe that exercise is a good stress management tool? Do you believe there should be a bigger stigma about mental health?

Why do you think people avoid physical activities despite the health benefits? Do you think exercising can reduce the chances of developing mental conditions such as depression, anxieties, and PTSD? Have you ever been in a low mental state for an extended period? If so, what was your physical activity like during that time?

Methods: The questions caused each person to think about their daily exercise routine's relationship with their mental health. Two of the interviews were conducted in person, while the rest were done over the phone. The data from the interviews was then transferred into Qualtrics. Once all the interviews were conducted, the data was then exported into an Excel document. Each question was analyzed to find the common themes between each response.

Results: The final themes of the research project are clear mind, increased happiness, stress relief, consistency in workout routine, more energy and sense of achievement. When asked about mental health benefits they received from routine exercise all the responses agreed that exercise is beneficial to their mental health. 5 out of 16 people reported a reduction in stress levels because of routine exercise. 6 out of 16 people reported increased levels of happiness after their exercise routine. 5 out of 16 people said they had more energy, felt more alert and had a clearer mind after working out. In response to the question: Do you think having a consistent activity routine has an impact on your mental health? Wendy who is a 51-year-old working mom and wife said, "Yes, most definitely. I first began discovering the joy of exercise when I went away to college. I started swimming, biking, taking aerobic classes and running daily. I experienced an immediate mood boost and overall, well being physically from exercising, so I've kept it up since then. There's an undeniable positive tradeoff between exercise and mental health. In my twenties and thirties, I did a lot of running and swimming, typically 5 days a week. Now due to life circumstances of work and taking care of my elderly mother, I can only swim three times a week."

Conclusion: The result of this study only adds to research that already exists. It provides clear data that shows how exercise relates to the treatment of mental health.

Townsend Yu

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EUREKA! Course: GECRT-SS 111 Health Issues in Aging

Mental Wellness Based on Physical Fitness

Introduction: As the year passes, we will all become overly reliant on technology and the internet to be part of our daily lives. Either it can be entertainment, social interactions, or even work. Those activities themselves can lead people to sit or lay in one area for an extended amount of time without any physical activities. This brings up the main topic, does any form of physical exercise improve the wellbeing of the older generations mentally? While there are points from both sides that will agree or disagree with this statement, only the health professionals and people who experienced it themselves can best show the result. Best said by Paul Reed the Deputy Assistant Secretary for Health Director in health.gov, “What’s good for the body is often good for the mind. Knowing what you can physically that has this effect for you will change your day and your life. (Reed 2021). Ever since the recent pandemic of Covid-19 the effects can be seen all around the world, especially to the elderly who are most susceptible to the virus. Unable to see their family, friends and unable to go outside due to the risk of catching it which all can affect their mental health.

Methods: For this research, the participants between the ages of 50-90 years old were asked about their daily lifestyle based on what physical activities they had done during the week. Each researcher was tasked with asking those participants agreed questions that wouldn’t pry too much into their personal life. Those questions included: what form of exercise they do, how do they feel after such exercise, do they feel like something has changed after each exercise and so on. Once those participants gave their view on their own opinions and experiences, all of the data was collected in an online survey. Then, it is sorted out by key words and made a final assessment.

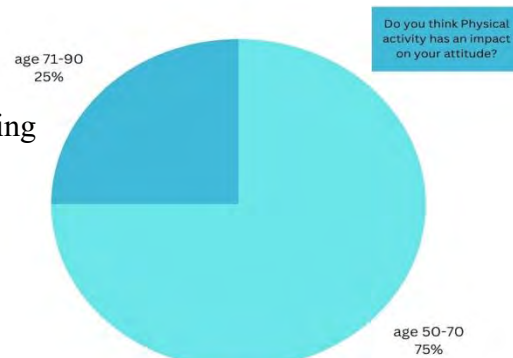
Results: The final outcome of this research has been presented with nearly a 80% support from the participants agreeing that any form of exercise, whether it is a routine walk or chores around the house, had made a positive impact in their day. While the rest believe it didn’t change any sort of change. On the other hand, when asked their what benefit they do get from performing physical activities. The results come back that 60% benefited from a mood boost throughout the day while the rest agreed that keeping themselves active was the main motivation in general.

Conclusion: The research itself is comparatively different when it comes to other sources. The purpose was to find out if the older generations benefited from positive mental health when exposed to forms of physical activity. Although this research was done locally from a small pool of people and can only impact show the result of the communities. It is possible that a similar pattern can emerge from a bigger crowd, but the data itself might show very differently. Even though a good majority of the participants supports the idea of exercise benefits the mental health, it can’t be said the same to the rest of the world.

Sophia Zahn

Faculty Mentor: Kelsey Gardiner

EUREKA! Course: GECRT-SS 111 Health Issues in Aging



The Importance of Physical Activity

Introduction: In today's world, mental health is commonly discussed in schools. Younger generations talk about it all the time and are aware of it, but the older generations do not have as much knowledge of mental health. There are many factors that can better or worse someone's mental health. The research found shows how important exercise is for older generations and how it helps mental health. The first question used for research was "How does mental health affect your daily activity?" When asking this question, the responses varied. This made the research more interesting getting such different answers. The second question used for research was "Do you think physical activity has an impact on your attitude?" This question really made the interviewers think. The interviewers that were between the ages of 71-90 said no. The interviewers age 50-70 said yes. The pie chart that shows this data is above.

Methods: The type of questions asked were not yes or no. The questions really made the interviewers think about their day-to-day life and if they see changes when physical activity is not part of the day. All the interviews were over the phone. Some of this research was conducted using the website Centric Healthcare. This article discussed how to overcome these barriers and encourage others to recognize that talking about mental health is a serious and urgent matter. The quality of one's mental health has a big impact on their physical health. It's important to keep in mind that our general well-being is influenced by both our physical and mental health.

Results: The research's final three themes are confidence, energy levels, and stress relief. The first theme is stress relief because it appears in many of the questions as a prominent theme. Physical exercise can help people manage their stress and can point them on the correct path in terms of their mental health. Another theme picked was energy levels because exercising increases energy and doing it first thing in the morning helps people have a successful day. According to studies, having enough energy is a sign of mental health. While interviewing Abby, a 50-year-old wife, and mom with a career, she says "My physical activity has a huge impact on my mental health. Sometimes you need an outlet for energy, and you don't even know it. I always feel better after I exercise. The status of my mental health doesn't directly impact my physical activity. My responsibilities (mom, wife, career) and desire for social interaction impact my frequency of physical activity." The final theme is confidence. In both physical activity and mental wellness, confidence is crucial. Some people dislike physical activity because it makes them feel insecure. They are unaware that after they overcome that obstacle, they will not be as harsh and critical of themselves, which will boost their confidence and benefit their mental health.

Conclusion: The research conducted for this project complements earlier studies and has provided a clearer understanding of why it is so crucial. Future generations will only get better as time goes on because so many individuals start working out at such a young age that it becomes a regular part of their daily routine. It was not always a priority in the sphere of health, as the older generation has recently had to discover.

23RD ANNAUL SYMPOSIUM OF UNDERGRADUATE RESEARCH & CREATIVE SCHOLARSHIP

Alphabetic List of Undergraduate Researchers, Scholars, & Artists

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